

Manufacturers Record

Exponent of America

SEPTEMBER 28, 1922

Volume LXXXII

Table of Contents

Number 13

Civilization Can Breathe More Freely.....	Cover Page
EDITORIALS	41-48
Danger of Branch Banking as Seen by a Banker.	
A Protective Tariff Means Agricultural as Well as Industrial Progress.	
Deflation's Apostle as Viewed in Alabama.	
The Eternal Principles of the Constitution Must Be Maintained if This Nation is to Survive Government by Commissions and Bureaucrats.	
The World Menace of Mohammedan Uprising in the Struggle of Turkey to Get Back Into Europe.	
The Enforcement of Law and Order a Supreme Duty to Civilization.	
A Good Example to Follow.	
Southern Politicians in Congress Have Cost the South More Than the Boll Weevil.	
Is the Federal Reserve System Superior to the Federal Government?	
The Cotton Farmer is Again Being Marked for Slaughter.	
A Notable Example of Southern Enterprise.	
Foodstuffs Exports for Seven Months.	
Banks Withdrawing from Federal Reserve System.	

NEWS ARTICLES

Rationalizing the Coal Trade by Sub-Aqueous Storage.....	By Courtenay DeKalb	49
Check-off System Outlawed.....		51
Extensive and Conclusive Demonstrations in Boll Weevil Control.....	By C. A. Whittle	53
Tulsa's Building Program Reaches \$15,000,000.....		54
Keeping Up With the Demand for Portland Cement.....		54
Without Capitalism Civilization Cannot Exist.....	By Samuel H. Barker	55
\$60,000,000 Increase in Value of Alabama Farm Products		56
Sinclair to Construct Pipe Line from Mexia to Houston Ship Channel—Capacity 25,000 Barrels Daily		56

DEPARTMENTS

The Iron and Steel Situation.....	58	Construction	64
Railroads	59	Machinery, Proposals and Supplies Wanted	77
Lumber and Building Materials.....	61	New Financial Corporations	80
Textile	62	New Securities	81
Commendations, Kicks and Comments	62	Trade Literature	82
Mechanical	63	Industrial News of Interest	82

PUBLISHED EVERY THURSDAY BY THE

MANUFACTURERS RECORD PUBLISHING CO., BALTIMORE, MD.

Branch Offices: New York, 30 Church St.; Chicago, 11 South La Salle St.; Boston, 734 Old South Bldg.; St. Louis, 915 Olive St.; Washington, Whaley-Eaton Service, 456-459 Munsey Building.

SUBSCRIPTION RATES

\$6.50 a year (in advance); six months, \$3.50; three months, \$2.00 to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. For Canada, add postage \$2 a year. For other foreign countries, add postage \$5.50 a year. Back numbers, if available and not over one month old, 20 cents each. From one month to six months old, 50 cents each; over six months old, \$1 each.

In ordering change of address, give old as well as new address.

MEMBER ASSOCIATED BUSINESS PAPERS, INC., AND AUDIT BUREAU OF CIRCULATIONS.

NORTHROP LOOMS

Trade-Mark, Reg. U. S. Pat. Off.

Make better goods and more
of them with less than half
the labor cost of weaving

DRAPER CORPORATION
HOPEDALE MASSACHUSETTS

Copyright 1917 by Draper Corporation

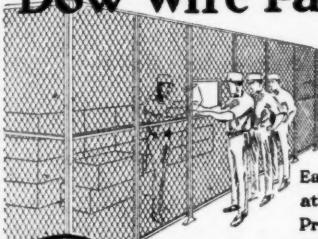
Don't depend on teams,
trucks or inclines for hauling.
Use the air. Overhead haulage is
practical, economical.

Send for Catalog No. 84
BRODERICK & BASCOM ROPE CO.
ST. LOUIS, MO.

F340

B & B Aerial Tramways

Dow Wire Partitions and Guards



Easy to Erect. Systematize Tool Handling and Prevent Loss. Send us a Sketch for an Estimate



The Dow Co. ~ Incorporated ~ LOUISVILLE, KY.

CRESSON-MORRIS CO. POWER TRANSMITTING MACHINERY

We make a complete line of Power Transmitting Machinery, Shafting, Rope Transmission, Machine Moulded and Cut Iron and Steel Gears for heavy service.

PHILADELPHIA, PA.

Branch Office:
141 MILK STREET, BOSTON, MASS.


Files that have
established a
record for 100%
uniformity

NICHOLSON FILE CO.
PROVIDENCE, RHODE ISLAND

Dependable Wire Rope for All Purposes

Is Made By
A. Leschen & Sons Rope Company

(Established 1857)

ST. LOUIS, MO.

New York

Chicago

Denver

San Francisco

McEVoy WIRELESS WELL STRAINERS

Illustrating Sturdy Construction:

1st. Holes are drilled at equal spacing in thick wrought pipe →

2nd. Holes then reamed to $\frac{1}{8}$ " diameter for $2/3$ their depth, leaving that heavy shoulder—SEE THAT SHOULDER →

3rd. McEVoy WIRELESS slotted wrought brass strainer plugs are forced by heavy pressure down to shoulders, then riveted in place, SEE THOSE CLINCH MARKS →

Write for full information.

J. H. McEVoy & COMPANY
Houston, Texas



KINNEAR

ROLLING · DOORS
The pioneer among rolling doors—leader for 17 years! Perfect balance, easy operation, affords fire and theft protection, simple to repair—built-in as integral part of building. Branch offices in principal cities. Write for Catalog No. D-10.

THE KINNEAR MFG. CO.
823-873 Field Ave., Columbus, O.

New York Office: Washington Office:
1182 Broadway, 929 Southern Bldg.
New York, N. Y. Washington, D. C.



Manufacturers Record

EXONENT OF AMERICA

Devoted to the Upbuilding of the Nation Through the Development
of the South and Southwest as the Nation's Greatest Material Asset

Trade-Name Registered in the U. S. Patent Office

Vol. LXXXII No. 13
WEEKLY.

BALTIMORE, SEPTEMBER 28, 1922

{ SINGLE COPIES, 20 CENTS
\$6.50 A YEAR

PUBLISHED EVERY THURSDAY BY THE
MANUFACTURERS RECORD PUBLISHING CO.
Office: Manufacturers Record Building, Cor. Commerce and Water Sts.
BALTIMORE, MARYLAND

RICHARD H. EDMONDS, President VICTOR H. POWER, Treasurer
FRANK GOULD, Vice-President I. S. FIELD, Secretary
RICHARD H. EDMONDS, Editor

BRANCH OFFICES:
CHICAGO, 11 So. La Salle St. NEW YORK, 30 Church St.
ST. LOUIS, 915 Olive St. BOSTON, 734 Old South Bldg.
WASHINGTON (Whaley-Eaton Service), 456-459 Munsey Bldg.

SUBSCRIPTION RATES:

\$6.50 a year (in advance); six months, \$3.50; three months, \$2 to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. For Canada add postage \$2 a year. For other foreign countries add postage \$5.50 a year. Back numbers, if available and not over one month old, 20 cents each. From one month to six months old, 50 cents each; over six months old, \$1 each. In ordering change of address, give old as well as new address.

In order to avoid delays all correspondence pertaining to news or advertising matters should be addressed directly to the Manufacturers Record, Baltimore, Md., and not to individual editors, officers, employees or any branch office.

DANGER OF BRANCH BANKING AS SEEN BY A BANKER.

M. ANDREW J. FRAME, chairman of the Waukesha National Bank, Waukesha, Wis., esteemed by the leading bankers of the nation as one of the ablest students of finance in the country, in a letter to the MANUFACTURERS RECORD, says:

"The article, 'Complete Centralization of Financial Control Must Not Be Permitted,' in the MANUFACTURERS RECORD of August 10, is a masterful statement of the case. If the mass of bankers of the United States, who are the backbone of our wonderful progress as compared to the palsying effects of monopoly in Canada, do not awake to their peril, arise in their power and Scotch the snake, then the doom of independent banking impends.

"President McAdams, of the American Banking Association, wired me yesterday: 'One hour open forum at American Bankers Convention,' asks me to open debate, giving 12 minutes to combat the most destructive heresy before the American people today. 'Reply 12 minutes and then four minutes to anybody.' I accepted subject to protest on time all around. This is in line with despotic activity for years."

Mr. Frame has been known for many years as a vigorous and aggressive and far-seeing opponent of branch banking in this country. He attributes much of our great progress to the work of the 30,000 or more banks operating independently and co-operating with the communities in which they are established for development. He regards as one of the most serious menaces of the country the possibility of branch banking being adopted and our entire banking system becoming gradually absorbed by the great banks of the big cities, to the destruction of independent banking and our national welfare.

A PROTECTIVE TARIFF MEANS AGRICULTURAL AS WELL AS INDUSTRIAL PROGRESS.

WRITING for a syndicate of Southern papers, Savoyard, a well-known Washington correspondent, in bitterly denouncing the protective tariff which was then under discussion, said.

"The 400 democratic editors and 4000 bankers of the South who signed the plea for protection that Senator Gooding flung in the United States Senate, no doubt are patriotic men who love the South as devotedly as I, or anybody else, but they are grievously mistaken. The South is a farm. The North, east of the Mississippi River, is a factory. It is impossible to protect the farm in the same degree that the tariff protects the factory."

This is a theory which has cursed the South for the last fifty years. People who argue from this point of view have very little understanding or comprehension of the magnitude of the industrial interests of the South, or of the South's industrial possibilities.

In 1920 the total value of the manufacturing and mining products of the South amounted to \$10,933,000,000, while the total value of farm products, including all crops and live stock (and this, too, at a time when cotton was commanding such a high figure) amounted to \$9,365,000,000. Thus in that year the value of manufactured and mining products exceeded by \$1,500,000,000 the total value of all farm products.

But ignoring entirely what has been accomplished in the development of manufacturing, it should be remembered that this section is the most richly endowed region on the face of the earth for the development of manufacturing and mining. Great as are its advantages for agriculture, they do not match in importance the boundless resources possessed by the South for manufacturing and mining. By his very argument that protection does develop and protect the factory Savoyard should have pointed out that with its enormous resources of minerals and timbers and water powers the South ought to favor a protective tariff in order to utilize to the fullest extent these great resources for the employment of people and the creation of wealth.

The mere fact that the coal area of the South is five times as great as the coal area of all Europe, excluding Russia, and twice as much even when Russia is included, is merely a hint of the limitless resources of this region. Its enormous production of oil and gas and the vast stores yet untouched; its production of 99 per cent of the sulphur of the entire country and about 75 per cent of the world's sulphur output; its cotton manufacturing interests in this section now consuming in its own mills far more than the total consumption of all other mills in the United States, are but hints of the limitless future that awaits this region for manufacturing. And in addition to these facts there should be borne in mind that no country can be permanently prosperous based simply on agriculture. There must be a diversification of industry in order to furnish a local market for the products of the farm.

The building of Southern cotton mills has enormously en-

hanced the importance of the local market for cotton and the products of diversified agriculture for feeding the mill employees. Birmingham and Atlanta and Spartanburg and Charlotte and Anniston and every other industrial city create markets for diversified farm products. Without diversification of agriculture the South would continue in the poverty which has ruled among the cotton growers for many years. This section cannot possibly thrive on cotton alone. It must diversify its agriculture, and this is not possible except to a limited extent unless there is a home market for its diversified farm products.

This situation is strikingly illustrated in the condition prevailing in Pennsylvania. A few weeks ago the writer motored through a considerable stretch of Pennsylvania, including that wonderful industrial region from Reading on through Lebanon, Harrisburg and other industrial towns. He stopped one day to make a study of a superb peach orchard producing the finest peaches he had ever seen. Inquiry of the manager developed the fact that the crop this year was about 13,000 baskets and not a single basket had to be shipped by the grower. The buyers in the local industrial towns sent their own trucks by the dozens to this great orchard, where all the fruit was sorted as to sizes by an automatic machine, and bought as rapidly as it could be gathered. The local markets of Reading, Lebanon, Lancaster, York and other towns take every basket of fruit that that great orchard, and many others, can produce. The factories in these towns are the salvation of the farming interests. They have made farming prosperous, and it is difficult to conceive of a richer looking agricultural region than in that section where every product of the farm can find a local market. Rich farms, fine farm houses and no huts and no evidence of poverty dominate the whole region, because farm and factory form a happy combination for the prosperity of all.

Until the South utilizes, to a larger extent than it has ever yet done, its boundless opportunities for mining and manufacturing, its agricultural interests cannot prosper as they should do. Even viewed from this standpoint the farmers of the South need a protective tariff to a greater extent than do the manufacturers themselves. Every factory built means an enlarged market for the diversified products of the Southern farms. Every new mine opened, every water power developed, simply means an enlargement of the market for farm products, but until the South, under the beneficent influence of a protective tariff, has brought about an industrial development matching that of Pennsylvania and other Eastern and some Western states, it cannot reach its highest agricultural prosperity, because it cannot develop to the fullest extent diversified farming.

In the one crop system of cotton there is poverty, even under the best conditions. Under diversified agriculture, feasible only when there are local markets created by industrial communities, alone can be found general prosperity for the farmers. Therefore, even if there were no protection in the new tariff for Southern agriculture—and fortunately there is to a greater extent than ever before a protection for agricultural interests—there would be a vast benefit to agriculture through the larger development of industrial communities.

The old doctrine that the South must be for free trade because of the alleged claim that it is an agricultural community has been the curse of this section, and has held it back from the full utilization which will now come about to a larger extent than ever before, of its boundless material resources for mines and for factories.

Good habits are not made on birth days, nor Christian character at the new year. The workshop of character is every day life.—Maltbie D. Babcock.

DEFLATION'S APOSTLE AS VIEWED IN ALABAMA.

TWO of the leading manufacturers of Birmingham have sent to the MANUFACTURERS RECORD a clipping from the Age-Herald of that city, containing a letter from Mr. E. C. Porter of Dothan, Ala. One of these manufacturers writes: "Mr. Porter stands very high as a business man in his community."

These manufacturers, like many others in Alabama and elsewhere, hold exactly the same views as to the unwise credit deflation under the management of Mr. W. P. G. Harding as expressed in the following letter to the Age-Herald:

To the Editor of The Age-Herald:

Referring to your editorial of yesterday commanding the administration of Governor Harding of the Federal Reserve banking system, regardless of the fact that Governor Harding is an Alabama product, I must differ with you and say that you are letting your state pride run away with the facts. Your statement that "we came through the period of depression with a minimum of failures" is absolutely incorrect. The whole truth is that the Federal Reserve System, created to prevent panics, created the greatest panic ever known in this country, and instead of there being a minimum of failures 90 per cent of the farmers of the south and west were broke. They don't show in Bradstreet's or Dun's, and therefore you have not taken them in account. It was on their innocent heads that the full force of Harding's wild orgy of deflation fell.

Deflation was decided on almost overnight. Loans to member banks in the south and west were stopped. Outstanding loans were called. The agricultural banks called their customers and the first call of the Federal Reserve was satisfied. Every few days the Federal Reserve would issue another call always in the south and west, and the wildest confusion reigned. The country banks were helpless and could do nothing but call their agricultural customers. Cotton tumbled from 40 cents to 10 cents, hogs from 20 cents to 4 cents, syrup from \$1 per gallon to 10 cents per gallon, wheat from \$3 to 90 cents, peanuts from \$200 per ton to \$35 per ton; corn, then selling at \$1 per bushel, lost its value entirely and was consumed as fuel by the grower. And still the Federal Reserve called. It was then that young mules which cost \$300 each eight months before were led in and delivered at \$50 each, and good milk cows were freely sold at \$7.50 each, all to satisfy the blind, brainless and cruel call of the Federal Reserve bank. Still it called again. This time we dug up the Liberty bonds which we bought as patriots and sold them at 80 cents on the dollar—obligations of our own government, sold at a discount of 20 per cent and to satisfy the demands of the same government. Can you think of anything, Mr. Editor, that could be more oppressive? During all this time of deflation, and for the first and only time since this government was founded, we of south Alabama could not borrow a \$5 bank note on a bale of cotton or a Liberty bond—the government's own obligation—no, not even from a member bank of the federal reserve system. When it was all over agriculture in the south and west went bankrupt.

Now, let's examine the other side. We are all agreed that a certain amount of orderly deflation was necessary, but have you ever before heard of a doctor who cut off his patient's head, hands and feet to effect a cure? Do you not think Mr. Harding was operating with a meat axe instead of a surgeon's knife?

What was the economic result of this drastic deflation as it affected the different sections of our country? First, these calls resulted in the greatest accumulation of gold in New York that has ever been piled up in one pile since the dawn of history. The east had all the money wanted at 3½ per cent. They used it liberally to buy our products while the prices were demoralized, and also our Liberty bonds. Within a few months the cotton we were forced to sell them at 10 cents by the Federal Reserve Board had again reached its true value, and the eastern buyers were able to resell it at 25 cents to the mills. Thus a profit of 150 per cent on the great staple crop of the south was handed eastern capitalists by the operation of the federal reserve board. The Liberty bonds we were forced to sell them at 80 immediately went above par, thus extorting \$200,000,000 more from the south and transferring it to the favored east. One banker in Charleston, S. C., told me his bank "got wise" and bought \$2,000,000 worth of Liberty bonds at 80, margined

them only 5 per cent, and the remainder was carried for them in New York at 3 per cent interest. Their profit on the transaction was more than \$225,000. And they were merely pikers! The biggest banker in south Alabama told me "William P. G. Harding had cost the south \$1,000,000,000."

The facts are incontrovertible, Mr. Editor. Were it possible I would gladly accord him a place in history along with other sons of Alabama who have won their laurels for themselves and their mother state. The cold facts make this

impossible. That he is being "sugar-coated" Eastern colleges does not help the matter any and William P. G. Harding will go down in history as the greatest "disaster" that Alabama ever sent to Washington. Those who think the President will reappoint him governor of the Federal Reserve are reckoning without their host. He will not offend the agricultural vote by again imposing Harding on them. The President is a good politician.

E. C. PORTER.

Dothan, September 20, 1922.

The Eternal Principles of the Constitution Must Be Maintained if This Nation is to Survive Government by Commissions and Bureaucrats.

IN analyzing the achievements of the Congress which has just adjourned, business men need not be so concerned over the various claims as to efficiency or inefficiency made by political advocates as over the tendencies which have developed. The wisdom of political action is weighed in the balances of the future. Time alone can give a just verdict.

There are, however, tendencies in government which every business man and every citizen, who has the well-being of his dependents and country at heart, must consider. These tendencies are:

1. Evolution and development of the bloc system of government.
2. Integration of governmental authority, federalization, centralization and movement toward state socialism.
3. Government by commission and subordination of law to the dictates of personal administrators.

For fifty years there has been an industrial bloc in Congress. Emphasis on the bloc system has only become pronounced since an agricultural bloc developed. Both are non-partisan. Both were inevitable. We do not say good, but inevitable. The lines dividing Democrats and Republicans have for some time been historic and traditional rather than present and real—just labels. The farmer in Idaho and the farmer in Alabama have more identical than opposing interests. Sooner or later they were bound to get together on new major policies, such as agricultural credit, co-operative marketing, etc. So, if one set of interests attempts to create a financial autocracy, it becomes a bloc and a bloc to fight it is natural. We have, therefore, a series of blocs, as yet very diverse. For instance, a prominent member of the agriculture bloc may be an equally prominent member of the financial bloc. We have not yet blocs that take the place of parties and maintain discipline, but rather a variety of blocs.

In the Senate, particularly, individuals have learned that insurgency seems to get more votes in a primary than does regularity. It is popular, therefore, to have an individualistic rather than a party record. That makes for blocs.

With blocs, legislation becomes a matter of trade and barter, more or less. Also, as different issues become paramount, new bloc alignments become inevitable. In turn, a long-term President, with such authority as the American Chief Executive possesses, becomes an anachronism. The bloc system can function only when there is a responsible Premier directly responsible to the legislature. Otherwise, government simply stagnates. For instance, a President may be elected on a tariff platform. That may be carried through and suddenly an international issue arises on which a heavy majority in Congress would have views directly opposite to those held by the President. Government these days is too complex to justify waiting in such circumstances for another

Presidential election. A majority of coalition blocs in such circumstances ought to be able to name a new Premier and proceed to carry out its policies.

In the American system, government by blocs is impossible. Therefore, either the bloc method must be discouraged and eliminated or other parts of the Government must be accommodated to the bloc method. Some of the keenest students of government believe that the bloc system is inevitable and cannot be avoided. If that is true, then it is equally inevitable that sooner or later the Presidency will have to be shorn of its powers, become a mere social office, as in France, and the true parliamentary method be adopted in the United States. It has its demerits, many of them, but it also has this merit: It means that in elections principles rather than persons would be voted for. Also, it would prevent such absurdities as a President for two years using the administrative power of the Government to keep in effect policies which the people themselves by huge majorities had repudiated.

If any man doubts the movement in the direction of centralization and state socialism, he has only to read the President's recent address to Congress on the coal situation. Here we have a man who went into office absolutely fixed in his purpose to prevent further centralization or further experiments in putting the Government into business. Nevertheless, less than two years after taking office, he solemnly proposes that the Government undertake the purchase, sale and distribution of coal. If that is not state socialism we do not know what it is. And then, as to centralization, it is not only proposed to invoke hitherto unsuspected national powers from the "general welfare" clause of the Constitution, in order indirectly to extend Federal authority into jurisdictions heretofore always admitted to be outside the Federal sphere but legislation is also enacted so to manipulate the control of railroads as through that control to regulate prices throughout the union. And Congress provides for a commission to consider if nationalization of the coal mines would not be advisable! We doubt if coal is charged with any higher public essentiality than is food. It is but a step from socialization of the coal industry to socialization of the agricultural industry. Once the Government begins to guarantee prices and wages for production of one character, it will have to do it for production of another character. And control over any industry, in such acute form, differs from public ownership in name only.

Moreover, we have an Administration of "normalcy" proposing federal support of the public school system. In the Revolution, the patriots pointed out that judges paid by the crown would be faithful to the crown. Where a man's living comes from there is his obedience. Also, the Republican party, under which these movements toward socialism and federalization are made, is a hesitant beginner compared

with the recent record of the Democratic party; and those in opposition to both the old parties are even more radical.

How far we are going in government by commission is a question, but we have gone far already. Outside of the Government, a dictatorship has been established in baseball, another in moving pictures, another in the theater, something akin to it in part of the construction industry and it is seriously considered in other pursuits. In the Government, we have one commission arbitrarily controlling credit and finance and claiming to be beyond the control of Congress or the President, or both combined. We have another commission which is in arbitrary control of transportation. We have another commission that pries into any business, apparently, anywhere, and exercises the widest sort of supervision. Now we are to have still another commission to take over control, beginning in a minor way, of customs and tariff duties. Moreover, in open sessions of Congress it is argued that this commission ought not to be compelled to hold hearings in public, but should be enabled to move secretly, if it so wills, and to this argument Congress yields. The vast powers of Congress, which is a responsible body, are relegated to commissions, the members of which are not elected, and their decisions become more important to the nation at large than the general policies of the Government itself.

One year we have one commission deciding that there is too much business and refusing to permit use of the gold reserves, in accordance with law, to be used to sustain credit. Another year we have another commission deciding that there is too much transportation and ruling business off the rails. So it goes, and the end is not yet.

Elsewhere, led on by such dictatorial activities as the above another commission, known as the Shipping Board, overrules the nation, Congress and the Supreme Court, and calmly decides that even though Prohibition is a provision of the Constitution it will not permit Prohibition on ships owned by the nation. Officials trying to find holes in the statutes, administrators in arrogant assumption of authority they do not possess, but anxious to try anything if they think they can get by with it—that is the spectacle.

We realize that the frontier virtues cannot be translated into an intensively developed civilization and we know that the very progress of the nations demands changing policies and modification of old methods. But we can at least chart our course and know "whither we are drifting." We can read history with some advantage and protest against the programs which led other great nations to ultimate ruin.

The plain truth seems to be that conservative elements have been submerged in the Democratic party and are being submerged in the Republican party. It is not the radicals, therefore, who need a third party, much as they think about it, but the intelligent, far seeing, responsible and constructive elements. They ought to be in one party, a thoroughly American party, on a thoroughly American platform. Indeed, unless we are to have a Government of blocs and commissions, it is essential that strong citizens stand for unwavering allegiance to the eternal principles of the Constitution, permitting only such modification in the operation of them as attunes the machinery of administration to the peculiar requirements of the day.

The simplest government is the best government. Business men may as well understand now as later that all this centralization and governmental interference means higher taxes, greater difficulty in making a living, subservience to bureaucrats, a decline in patriotism and an endless cycle of disturbance and uncertainty in government. It is time for good citizens to give a little thought to what is going on in their own country.

THE WORLD MENACE OF MOHAMMEDAN UP-RISING IN THE STRUGGLE OF TURKEY TO GET BACK INTO EUROPE.

SOME twelve or thirteen years ago, before there were any signs of European war, the editor of the MANUFACTURERS RECORD asked Rev. O. C. S. Wallace, one of the most far-seeing, world visioned ministers whose acquaintanceship it has ever been our privilege to have, if the time had not come for disarmament in Europe and America. His reply in substance was as follows:

"No; for you must take into account the fact that there are between 400,000,000 and 500,000,000 Mohammedans in the world and that through the centuries Mohammedans have been taught to believe that the time will come when they shall conquer the world by the sword. Inspired with this thought they will be ever ready to avail themselves of any opportunity to overrun Europe if they should find Europe unarmed and unprepared to meet them."

No man who has studied with any degree of care this situation, or who has read Stoddard's "The Rising Tide of Color," in which he has indicated the vast possibilities of the yellow races of the world uniting for the destruction of white civilization, can fail to realize the menace of the advance of Turkey in its struggle to get back into Europe.

Back of the movement of the Turks is the spirit of unrest and desire for conquest by the whole Mohammedan world. The possibilities for evil in this situation cannot be overestimated. The menace is one of such tremendous danger that this country needs to study that situation with even greater care than it studied the effort of Germany to overrun Europe in the ultimate determination to conquer America. It is possible that there are greater dangers in this effort of the Turks and the Moslem world to regain power than there were even in the struggle of Germany for world domination and damnation.

Great Britain stands at present as the only safeguard against a rush of Mohammedans under Turkish leadership into weakened Europe, possibly allied with Soviet Russia, and the outcome of such a struggle might mean the destruction of European civilization, and this would ultimately mean the downfall of American civilization. The future of Christianity and of civilization is at stake. It may be said by some that as Great Britain stands in the breach against the threatened onrush of Moslems that it has a certain degree of selfishness in its plans. Granted that this be true, its selfish interest is not greater than that which sent America into the world war. Officially this country did not make a move to enter the war until officially it was recognized that the defeat of the Allies would mean the destruction of America. Some heroic souls went into the war from altruistic motives pure and simple, but the nation as a nation stood aside and let the fearful struggle go on for two years before fully realizing the possibility of our own destruction unless we entered the struggle.

If Great Britain is seeking to save its own existence in facing the Turk at the Straits it is doing exactly what we did when we entered Europe. The value of Britain's work in this emergency without question may be equal to the value of America's work in France; perhaps it may even be greater. At present Britain seems to stand alone as the guard against the destruction of European civilization by the hundreds of millions of Moslems ready to carry on in every part of Europe that awful carnage enacted at Smyrna. What happened at Smyrna was not unlike what has happened wherever the Turk has come in contact with Christianity.

Dr. Joseph Parker, the great preacher of London, some years ago in demanding that the Turks should be driven out of Europe, felt justified not only in referring to them

as the "unspeakable" Turks, but in a thrilling sermon called them the "damned" Turks.

France has proven false to itself and to the world in its alliance with Turkey, whose alliance with Germany shocked all civilization, and now France joins its hated enemy and becomes the ally of the "damned" Turk.

What the Turk is today he has been for 500 years or more. The world's civilization, the maintenance of the white race and of Christianity, all hang in the balance until the question is settled as to whether the Turk shall force his way back to Europe or not. Some men say that the power of Christianity is too great to be destroyed. On the other hand, it must be remembered that in times past, even after the marvelous expansion of the Gospel following the days of the Apostles, the world sank back into the barbarism of the Middle Ages. History teaches that such things may occur again, and the civilization which cannot defend itself against barbarism is likely to go down in ruin.

Once more America must give an emphatic affirmative answer to the question "Am I My Brother's Keeper?" To what extent we must exert our power to save Christianity and Chistendom is now the great question before America and the world.

THE ENFORCEMENT OF LAW AND ORDER A SUPREME DUTY TO CIVILIZATION.

A DISPATCH from Asheville, N. C., under date of September 9 says:

E. J. Koontz, E. R. Henderson and Frank Briggs, striking Southern railway shopmen, were today each sentenced to serve seven years in the state prison, at hard labor, by Judge Henry P. Lane, in Superior Court, following conviction late yesterday on charges of assault and kidnaping.

The men were found guilty of abducting Sam Harris, 19, a non-union workman, August 5, taking him in an automobile to a remote spot, stripping him of his clothing and beating him with whips.

Appeal bonds were set at \$8000 for each defendant. Notice of appeal to the Supreme Court was filed.

For many years North Carolina has had a reputation of punishing criminality and enforcing the laws for the protection of property and of life. Thirty years or more ago the writer asked a Western man, who was settling with some friends in a North Carolina town, why it was that he selected that state. His reply was that by careful study he had found that North Carolina was a law-abiding state, where law was enforced and criminals punished. That was the view of a long-headed Westerner who had deliberately selected North Carolina because of its law-abiding reputation. And every Southern state should make for itself a reputation which will draw law-abiding men and women and drive out or punish every criminal.

A few years ago, prior to National Prohibition, North Carolina had a prohibition law which was so vigorously enforced that men convicted of bootlegging were sent to the chain gang to work on the highways, regardless of their social or financial position. And this had a powerful effect in the maintenance of law.

The prompt sentencing by Judge Lane of three men convicted of attacking non-union workmen is a tribute to law enforcement in North Carolina which is of untold value to that state, and should be of value to the whole country. When men who are on strike attack men who are at work merely because they are working and are not union men, they are criminals, and the utmost punishment should be meted out to them. Judge Lane has set the nation an example. Had similar action been taken by the national and state governments during the last few months the moral standard of the country would have been raised to a higher plane and men would have been taught that crime is crime, regardless of who commits it.

It has been generally claimed that men have a right to stop work. That is true in some cases. But no man has a right to conspire with other men to stop work for the express purpose of beating his employer, or the nation, into submission to his views. The man who goes on a strike automatically cuts himself off from his former employer. He has no vested right in the job, and when he strikes it should be fully recognized by the country at large that the striker is no longer an employe. He has no legal or moral right to interfere with the work of his former employer in securing other men to do the work which he has voluntarily left, and the moment a striker undertakes to assault a non-union man because he is at work he shows by that act the criminality of his heart, which has been developed by the teachings of radical labor leaders.

If the federal and state governments had at the beginning of the present strikes taken the ground that every man had a right to work, and that any man who attempted by force to prevent others from working should pay the full penalty of the law and be treated exactly as Judge Lane has so wisely punished the railroad strikers in Asheville who assaulted non-union men, we would have developed a new realization of the soundness of law.

There must be a new and clarifying understanding of this subject by the people of all classes. The violation of law produces a criminality which must be punished. The national government, like state governments, sowed the seeds of discord, disloyalty and criminality when it failed at the beginning of the strikes to enforce law and order.

No compromise with criminals—and any violator of the law is a criminal—is ever under any conditions justifiable.

A GOOD EXAMPLE TO FOLLOW.

MR. EARNEST O. GILLAM, Texas representative of the Texas Cement Plaster Company of Oklahoma City, in a letter to the MANUFACTURERS RECORD commanding the position which it has taken on the enforcement of law and other issues before the public says:—"The MANUFACTURERS RECORD is furnished to each of our several salesmen, so highly is it regarded by our management."

If every important business concern in the South and Southwest, and indeed every concern doing business in the South, would supply its representatives and its officials with the MANUFACTURERS RECORD, the work of this paper in behalf of law enforcement, and that means the safety of the nation, would be tremendously strengthened.

We do not believe that any man doing business with the South can adequately understand the business situation of this section unless he reads the MANUFACTURERS RECORD carefully. Its broad discussion, through many experts, makes it invaluable to intelligent, thinking men, and that is the kind of men that all business concerns want as officials and as representatives. For instance, the MANUFACTURERS RECORD is now publishing a series of articles on the possibilities of coal shortage, of vital interest to every man who uses coal for domestic purposes or for manufacturing. The information contained in these articles is without question the most important that has been published by any paper in the country. In this week's issue, we have an article by a distinguished chemist and engineer—Courtenay DeKalb—who presents an illuminating discussion of the potentialities of coal shortage and how this can be made to serve the interest of all classes of the country. Following this will be additional articles on the same subject of equal value. Every issue carries some outstanding articles of world-wide interest.

No man who seeks to keep in touch with the things that pertain to the welfare of the individual, of the community, of the nation, can afford not to make a careful study of the great public questions which are discussed through the

MANUFACTURERS RECORD as through no other publication in America. The Texas Cement Plaster Company is setting a wise example to all other business concerns when it supplies its representatives with the MANUFACTURERS RECORD. Will other business concerns be equally as wise?

SOUTHERN POLITICIANS IN CONGRESS HAVE COST THE SOUTH MORE THAN THE BOLL WEEVIL.

THE Fordney Tariff law is the first to give official recognition to the principle that agriculture is entitled to equal protection with any other industry. In that principle will be found the hope of America for a balanced national life, in which agriculture can continue to tempt good citizens and in which the cultivation of the soil will not be turned over to a race of peasants and serfs.

We do not consider the law adequate. It has in it some fatal inconsistencies, such as free hides. But it is incomparably better, from the agricultural viewpoint, than any tariff bill that ever went before it. It lays the foundation for better treatment in tariff bills of the future.

Moreover, it would have been a veritable charter of prosperity for agriculture had the principal agricultural representatives in Congress had the vision and courage to support it. There is not in the bill one item—not one—detrimental or non-helpful to Southern farm interests that could not have been made beneficial and helpful had the South so voted. Whether Southern interests were sacrificed they were sacrificed by Southern votes, by the votes of Southerners who allied themselves with special interests whose interests were antagonistic to those of the South. Southern votes, to illustrate, gave Senator Lodge free hides, which may elect him in Massachusetts.

An even more forcible illustration occurs in the case of staple cotton. There seems to be a feeling that short cotton cannot be protected. "That is the reason I am not a protectionist", said a cotton Senator. But, given an economic solution of the boll weevil, if there is any one thing that will be of benefit to the South it is in the improvement of the grade of cotton produced. Quality rather than quantity production has long been the aim of cotton statesmen. Now, staple cotton lent itself to protection in the most apparent manner. Egypt is the only other country that produces staple cotton in quantity. It is produced there by cheap labor and partly subsidized by the British Government. On the other hand, America is capable of producing every ounce required by American factories. But such production is under American standards, costing American prices. A chief purpose of importations of Egyptian cotton is to control or break the market for American staples. So high are American freight rates and so low the ocean rates for transport of Egyptian cotton that any advantage gained by proximity of the American product to the American market is lost. Without a protective tariff, therefore, American staple cotton must be produced on Egyptian cost scales or the industry be abandoned. The sea island cotton industry, in fact, has been virtually abandoned although this year, under the protection given by the emergency tariff act and under promise of protection in the permanent tariff law, Florida and Georgia have been attempting to get back into production.

Here, then, was a particular industry which stood in sore need of protection and which, under protection, would have been a powerful factor in restoring cotton equilibrium to the South. It would have encouraged improvement in seed and cultivation and would have brought high intelligence to the fight against the weevil. But Southern statesmen, knowing absolutely that there was going to be a general protective

tariff whether they liked it or not, with the welfare of their own people and constituents most obviously involved, joined with New England representatives in saying: "The spinners of fine cotton in New England must have a high protective tariff to assure profits for their products, but they also want free staple cotton from Egypt and do not see why Southern producers should get any profit from their cotton." Southern politicians were worth millions to New England mills and not one cent to their own people. Among economists such statesmanship is considered a tragedy. It explains why the South has not all the schools and churches and good roads that it ought to have.

The argument is equally true as to peanuts. The proponents of free vegetable oils were loud in their claim that the emergency tariff act has not been of any benefit in keeping up the price of the American raw material. But the news dispatches tell another story. They say that the price of peanuts dropped in Georgia the day the new law went into effect by the amount that the new bill reduces protection over what was enjoyed under the emergency bill. Sometime Southern farmers will wake up and ask their representatives why they vote profits into the pockets of soap-makers in Cincinnati and vote against any profits for their own people. In the value of land alone, Southern obduracy on the tariff is costing the South hundreds of millions of dollars. Ask the bankers who signed the petition presented by the Southern Tariff Congress.

We are going to make a statement that will arouse some controversy, but it is the naked truth. **The position of Southern politicians on the tariff has cost the South more than the boll weevil.**

That the South is not left absolutely out in the wet, selling in a free market and buying in a protected one, is due to the heroic efforts of the group of independent economists and thinkers who associated themselves into the Southern Tariff Association. Like an evangel it has spread the truth. And when the South, misrepresented economically by its own spokesman, stood to lose everything, it was a Westerner, Senator Gooding of Idaho, leader of the Agricultural Bloc in the Senate, who devoted himself militantly to seeing that the South got fair and equitable treatment. It would be difficult to estimate in dollars and cents the value of his services, but it may be said for him that without a trace of sectionalism he devoted his energies as freely and as earnestly in aid of Southern interests as he did in support of the people of his own State and section.

Fortunately, the enormous increase in manufacturing in the South has brought it about that New England cannot be vigorously protected without the value of such protection falling also on Southern factories. It is no longer possible to have a purely sectional tariff. Under the beneficent effects of the new law, therefore, we expect manufacturing in the South to increase tremendously. Venture will have as fine a chance there as anywhere. And every new factory in any Southern state means that another influence is arising to bring the section to a realization of wisdom in tariff matters. It is New England that veers toward free trade and the South that veers toward protection, because the future is the South's.

We are not concerned over charges of the tremendous increase in cost of living the new tariff is to bring about. We rather expect it to be a decisive influence in the new era of prosperity on which the nation is just entering. Wise men will look to the event rather than to the prophecies to determine whether the law is good or bad. The absence of soup houses will tell the story. After all, what the new tariff law means is that American standards are going to be maintained in America, even if all Europe sinks back into poverty production. Protection, in these days, is the watchdog of prosperity.

IS THE FEDERAL RESERVE SYSTEM SUPERIOR TO THE FEDERAL GOVERNMENT?

IN a letter to Senator Smoot, Edmund Platt, Vice Governor and Acting Governor of the Federal Reserve Board, says:

The Reserve Banks are not a part of the United States Government and their officers and members are not Government officers in any sense.

Mr. Platt makes this statement in a letter apparently designed to establish the proposition that it is none of the business of the United States Government what salaries the reserve banks pay, or how they squander their money.

The Federal Reserve Board is part of the Government of the United States. The members of the Board are appointed by the President. They are confirmed by the Senate. To them is given absolute control of the Federal Reserve System. The twelve reserve banks were established by act of Congress. Their management is provided for by act of Congress. The distribution of their profits is provided for by act of Congress. A part of the profits belongs to the Government. The Government is responsible for their wise administration, and the Federal Reserve Board is responsible, legally and morally, to see that the banks are not operated with extravagance or looseness.

But Mr. Platt resents, as W. P. G. Harding was wont to resent, any questioning by Congress as to administration or conduct of the financial system. It is, he intimates, above and beyond Congress, a creature greater than the Government, a financial dictatorship.

Two much power has made these gentlemen mad. They need to be called to account. They need to be shown that they are the servants, not the masters, of the people.

Why is it, it may be proper to ask, if extravagance in the conduct of the Reserve banks is none of the Government's business, that not a single governor of one of the Reserve banks is paid any salary at all until the amount has been fixed by the Federal Reserve Board, an agency of the Government?

In a letter to Senator Smoot some startling facts as to the enormous increase in salaries paid by the Federal Reserve banks of the country are given by Mr. John Skelton Williams, former Comptroller of the Currency, now president of the Richmond Trust Company. In this letter Mr. Williams says:

"The INCREASE alone in the salaries paid in the past twelve months as compared with calendar year 1918, amounts to more than three times the total amounts of salaries paid during the past year to:—

- All members of the United States Senate**
- All members of the United House of Representatives**
- The President of the United States**
- The Vice President**
- The Chief Justice of the Supreme Court**
- All members of the Supreme Court**
- All United States Circuit Judges**
- All members of the President's Cabinet**
- All members of the Interstate Commerce Commission**
- All members of the Federal Trade Commission**
- All members of the War Finance Commission**
- The General of the U. S. Army**
- The Admiral of the U. S. Navy**
- all combined.**

"I respectfully submit, Senator, that I think you will find these figures worthy of your consideration."

In further elaboration of these statements Mr. Williams adds:

"In that year (1918) the total amount of salaries paid as officially reported, amounted to \$4,768,449.00.

"In the twelve months ending June 30th, 1922, the Federal

Reserve banks, in their most important departments, did a smaller business than in 1918.

"For example, there was a tremendous falling off in the work involved in the handling of Liberty bond issues, no new Liberty bonds being brought out in the past twelve months. And there was also a heavy falling off in the amount of 'Loans, Discounts, and Bought Paper,' held by the twelve Reserve banks.

"The average amount held for the twelve months ending June 30, 1922, was about \$250,000,000 less than for the calendar year 1918,—and yet the official reports just published show that the twelve Reserve banks paid out in salaries for the twelve months ending June 30, 1922, the huge sum of \$19,987,559.00 an increase over the calendar year 1918, (when business in the most important departments was larger than it was in the past twelve months,) of \$15,219,110."

The effort of the Federal Reserve management to claim that the entire Federal Reserve System is a purely private banking operation, with which the Government has nothing to do, is so brazenly contrary to the law which was enacted by Congress for the creation of this system that it might be under the control of the Government, that one would marvel at the effrontery of Vice Governor Platt's quotation above if it were not that his statement is in direct harmony with the claims which other Federal Reserve men have made.

If the Federal Reserve Banking System is a purely private institution, over which the Government is to have no control, then we may be quite certain that the people of this country will see that it is wiped out of existence, or the law so completely changed that this banking system, intended for the benefit of the people of the country, is not wholly and absolutely run for the individual profit of its officers and stockholders, without regard to the welfare of the country.

THE COTTON FARMER IS AGAIN BEING MARKED FOR SLAUGHTER.

IN a page advertisement in the Dallas (Texas) Morning News, the Southwest National Bank of that city makes an emphatic appeal in behalf of the orderly marketing of the present cotton crop, in which it says:

"Shall we conserve the ultimate value of the present short cotton crop or shall we permit the speculator to reap the rewards of injudicious marketing?"

Continuing the Southwest National Bank states:

"Stability of price, as we see it, can be obtained through only one agency, and that is the quiet, orderly marketing of the production. This can be done, thanks to well-distributed warehousing facilities, if our farmers receive proper encouragement and financial assistance where needed."

"The Southwest National Bank of Dallas stands thoroughly committed to safe, sane and orderly marketing of our cotton crop, and, believing in this as strongly as we do, we are prepared to make advances on a properly margined warehouse basis."

"Intelligent and wholehearted co-operation upon the part of all business interests in our State means greater prosperity for all, and assures to the farmer a fair return for the products of his labor."

Mr. W. T. Blackwell, editor of the Cotton & Cotton Oil News, writes the MANUFACTURERS RECORD that he considers this "one of the best and most patriotic advertisements ever run by a bank, and if just twenty-five more big banks in the larger cities of the South would follow this most worthy example, the buyers would be hunting this famine crop of cotton and offering not less than 25c a pound and the farmers would at once stop piling it on the market, scared into such action by timid three-ball banks and more timid merchants."

The MANUFACTURERS RECORD has repeatedly urged upon the cotton growers and financial interests of the South a thor-

ough co-operation for the orderly marketing of cotton. Southern cotton farmers have from time immemorial been led to the market and slaughtered for the benefit of the speculator. Merchants and bankers of the South, who have it in their power to see that Southern cotton growers get a square deal and a just profit on their labor, can co-operate in aiding the farmers to market their cotton in a more economic, efficient way. They will find the farmer willing to hold his cotton if they will make it possible for him to get a little longer credit. With the world cotton supply at a low ebb and stocks of cotton goods equally low, it will be a crime against the people of this country if Southern cotton growers are not allowed to realize a fair profit on their work. Forced to sell their cotton as fast as it is picked and ginned, through the shortsighted policy of money lenders in the South (because the cotton farmer mainly is dependent upon borrowed capital,) demanding payment at a time when such a general practice is bound to force cotton prices down, the growers lose and have to stand by and see the cotton speculator parasite wax fat. Money-lending and crop-backing merchants, bankers and all others in the South by co-operating with the cotton grower for a better marketing of his crop will benefit along with the grower in helping to keep the money at home that usually goes outside to the speculator, and America will benefit through the increased prosperity of the South by keeping the money in this country that would go to foreign cotton speculators.

A NOTABLE EXAMPLE OF SOUTHERN ENTERPRISE

NO greater example of public spirit and individual enterprise has been shown in recent years than the compilation of facts about the south, issued in the form of a semi-annual survey, by G. L. Miller & Co., of Atlanta, Ga. Dealers in Southern securities, this firm gathers and gives out comprehensive information about Southern resources, business conditions, building activities, etc., with no greater purpose of self-advertising than is carried by the authorship, the entire South, and every one engaged in its development and upbuilding, being equally benefited by the undertaking. So striking are the facts presented that metropolitan newspapers as well as those of the South have carried liberal extracts from the summary, some of them printing several pages of statistics, articles and illustrations. Office buildings, hotels, apartments, bank buildings, etc., grouped in these illustrations, strikingly demonstrate the high character of building now going on in the South, and the tables of building operations set forth in detail the enormous extent of construction activity throughout the South.

It has been a great pleasure for the MANUFACTURERS RECORD to contribute whatever of information G. L. Miller & Co. sought from our files and records, and we are gratified to learn that the company proposes to continue this work, the date for the next survey being given as February of next year.

G. L. Miller & Co. have set an example of broad-minded effort in behalf of Southern upbuilding and the dissemination of knowledge about Southern conditions which might well be emulated by other Southern institutions, particularly dealers in Southern securities, whose popularity and demand rest upon the good opinion of the public, and by the railroads whose very life depends upon the advancement of the territory through which they operate and the development of the resources along their lines.

There is every indication that the public is in a receptive mood today for information about the South. No other section is showing quicker or greater recovery from the evil effects of deflation, and with the vast wealth of resources the South contains, the opportunity for an early and enor-

mous activity in all lines is present as never before. Such work as G. L. Miller & Co. has done, if duplicated by many others would hasten and broaden the development that is in sight.

FOODSTUFFS EXPORTS FOR SEVEN MONTHS.

THE export trade in foodstuffs for July and for the seven months ending July is characterized by adjustments indicating a slow return to pre-war conditions, states Edward G. Montgomery, in Commerce Reports, issued by the Department of Commerce.

It is interesting to note, he writes, that the exports of wheat for July, amounting to 19,000,000 bushels, are opposite in trend to both the pre-war and 1921 trade for the month.

July exports of corn show an increase of some 2,000,000 bushels over the previous month but do not equal shipments for July, 1921. Wheat and corn together account for approximately 1,960,000,000 pounds of the 2,460,000,000 pounds of all cereal and cereal products exported during the month.

Although exports of grain, grain products, and meats increased in volume, the total export value of grain, grain products, meats, and cotton decreased during July, following the pre-war trend rather than the upward trend shown in 1920 and 1921. Meat products as a whole show a rather marked increase over June, the total exports being about 9,000,000 pounds greater. This is due in a measure to the continued large exports of lard and pork products.

A comparison of foodstuffs shipments during the seven months, January to July, 1922, with the corresponding period of the previous year and of 1910-1914 is given below.

Exports of food products, seven months, January-July.

	Average	1910-1914.	1921.	1922.
Breadstuffs.				
Wheat	bush.	26,577,963	148,066,115	66,440,159
Wheat flour	bbls.	5,601,329	9,312,900	7,088,683
Corn and cornmeal	bush.	30,068,547	74,619,693	124,964,648
Rye and rye flour	do	728,674	18,654,515	20,531,866
Barley and barley flour	do	3,892,825	10,451,506	10,023,750
Oats and oatmeal	do	2,948,210	4,460,944	20,796,984
Rice whole and broken	lbs.	14,533,918	372,881,370	283,614,458

Meat and Lard.

Lard	lbs.	510,349,507	518,617,111	441,123,388
Bacon	do	101,669,732	264,688,046	184,293,487
Hams and shoulders	do	101,486,344	138,577,769	176,777,069

Dairy Products.

Condensed Milk *	lbs.	10,006,857	152,162,454	132,775,001
Butter	do	2,723,959	5,824,977	7,241,963
Cheese	do	3,358,207	9,484,796	3,346,733

Dried Fruits.

Apples	lbs.	13,908,640	14,559,257	6,800,616
Apricots	do	3,244,585	7,102,786	1,069,859
Raisins	do	5,677,205	5,329,638	25,321,542
Peaches	do	2,149,872	2,958,352	1,805,580
Prunes	do	17,745,453	50,111,721	33,562,175

Canned Goods.

Fruit	value	\$975,137	\$4,346,038	176,471,044
Fish	do	\$1,608,097	\$3,751,667	149,881,446
Vegetables	do	\$767,406	\$1,815,373	123,243,483

Miscellaneous.

Sugar	lbs.	51,972,094	573,147,141	1,690,201,459
Coffee, green	do	26,128,288	21,470,556	16,441,872
Coffee, roasted	do	888,027	722,612	681,935
Cottonseed oil	do	163,558,884	207,575,630	40,976,615

* Includes evaporated and powdered milk. † Pounds.

BANKS WITHDRAWING FROM FEDERAL RESERVE SYSTEM.

AMONG the banks which are reported as having recently withdrawn from the Federal Reserve System are the Stratford Bank of Stratford, Wis., Farmers Bank of Waconia, Minn., Bank of Pineville, Pineville, Ohio, and the Bank of Tennessee, Nashville, Tenn.

Rationalizing the Coal Trade by Sub-Aqueous Storage.

By COURTESY DEKALB.

The growing complexity of modern society necessitates closer industrial co-operation to ensure uniform provision of the necessities of life. The hardships that will flow from the prolonged strike of the coal miners is one more example of the need of intelligent planning for the safety and well-being of the people. It is precisely the poorer classes, those who are most closely linked in fraternal interest to the coal miners by reason of their dependence on a daily wage for bare subsistence, who will suffer most by the interruption of a normal coal supply.

A shortage increases the price. This is not a law created by the capitalist; it is a law proceeding from the peculiarity of man's psychology. The law of supply and demand, inexorable because man instinctively takes advantage of his brother's need, was merely discovered and reduced to a formula by Adam Smith. It was not invented by him. It has been operative ever since the pre-historic Cromagnon race traded bone and flint implements for skins and dried fish. It is stronger than all brotherhoods and compacts, and will wreck every device of law to oppose it. The only way to destroy it is to absolutely change the nature of man.

But society can forestall the evil effects of this law by wise provision in advance against a possible scarcity. By developing more and more the ancient plan by which a great Jewish prime minister of Egypt, taking heed of periodic droughts to store up grain against a seven year famine, we can abate the worst evils of inadequate supply and oppressive costs. We can, for instance, store up coal at suitable distributing centers, so that the people will not shiver in winter, nor pay increased costs of manufacture resulting from increased cost of fuel for power.

The working men, because they are many, will have to pay the toll of the coal strike. They will pay it in the costs of the necessities of life, increased in proportion to the increased cost of fuel, in obedience to that simple law that the scarcity of a commodity boosts the price. Because of our internal disorders the wage-earner can not equalize the augmented cost by higher wages, for there is a limit of cost for producing the goods of commerce beyond which it is impossible to go, and that limit is set by foreign competition. The higher the costs of raw materials through such interference with production as that resulting from the coal strike, the narrower becomes the margin of increase in wages that may be made to meet it.

Here is a lesson in practical democracy. The highest benefit of the wage earner must come from the uninterrupted provision of the necessities of our civilization, so as to hold as low as possible the cost of raw materials. The lower the cost of the raw materials the wider becomes the margin for a fair return to the workman.

The principle applied by Joseph in Egypt, which he doubtless learned from prudent statesmen in Chaldea, is fundamental. The public will recall the great amount of discussion some years ago concerning the Gatun dam and lake at Panama. If we were to wait for the freshets to fill the channel of the Panama Canal there would be a long series of fiascoes in trying to handle ships through from eastern to western tide-water. The very thought of trying to operate our great inter-oceanic waterway with the chance unbridled floods in the river Chagres is humorous. At one time the ships would wallow in mud, and at another they would be swept toward the Caribbean Sea as by a resistless tidal-wave. The Gatun dam, however, served to equalize

these extremes; it stored in the wide flowage tract behind it the surplus waters of the tropical torrents, and let them out on demand to move the shipping of the world, evenly and regularly at all seasons, whether of high or low water.

In our conduct of the nation's coal business we are doing exactly the same thing as if the engineers of the War Department had undertaken to operate the Panama Canal without that great regulating storage basin behind the Gatun dam. We have, even when there is no strike, a flood of coal poured upon the railroads for about five months of the year, and comparatively little during the remaining seven months. Moreover, the coal-flood comes at the same time as the crop-flood, when our transportation system is overwhelmed in the effort to move the produce of the farms to market.

It so happens that this period coincides exactly with the most difficult climatic conditions, when snow and ice and blizzards add to the difficulty of operating trains. A further effect of this insane policy is to cut the miner out of employment for a portion of the year, making the burden of existence heavier for him, while he vainly tries to cover his losses by forcing the wage received per ton above the safe margin that raw materials can pay. Without attempting to argue over this field of thorny questions, it is certain that all sides, the coal miners, the coal operators, the railroads, and the public, would rejoice to know that some wise economic engineer had created Gatun dams of coal storage to hold the excess production of the season of lesser consumption to let it out for, floating the ships of national need during the months of sharp demand. It would be a joy to all to realize that the miner was being paid a living wage, sanely as befits a great industry, not for five months but for twelve months in the year.

There are croakers, to be sure, who will object to using our intelligence for doing things in a rational way. They will talk of deterioration and spontaneous combustion, as the chief bogies. This objection will be disposed of presently. As for the other objections to the doing of things in full recognition of the proper rights of society, the first is that much money will be tied up in plants for storage and in the stored coal. Let us suppose that the storage cost were 10 cents per ton per month, and that the average term of storage were 5 months, (an excessive figure), and that the cost of handling into storage were 10 cents per ton and of handling out of storage were 15 cents per ton, and that the interest on stored coal at 6 per cent amounted to about 22 cents per ton for the storage period, the total increased cost over low-normal, on a basis of equalized supply, would be less than one dollar. This means an increase over bottom prices of about 10 per cent, but considering that the increase over bottom prices under our present irrational system, applying certainly to 60 per cent of the total coal consumed, is not less than 40 per cent, which is equivalent to 30 per cent on the total volume of coal marketed, it appears that the existing method of dealing with the case costs three times more than would be the cost of storage.

The coal on being rehandled suffers breakage producing more "slack" coal. This is proffered by some as a grave objection, but the rational handling of coal into storage breaks the coal less than the common method practiced at most coal-yards and industrial plants today where the coal is dumped from high trestles to the ground.

It may be said in passing, that the more highly perfected steam plants today either break the coal to 3 inches or less

for feeding through automatic stokers, or pulverize it to secure the most economic results. There is nothing in the argument of increased breakage. Coals from different districts vary within wide limits in their tendency to slack and break. In a rational storage system these differences could be taken into consideration, and the more friable could be moved directly to market instead of through storage.

The only objection requiring serious consideration is that of spontaneous combustion.

Anthracite neither deteriorates nor takes fire spontaneously in storage piles, no matter how long, how wide, or how high they may be.

Bituminous coal is subject to spontaneous combustion when placed in open-air storage, in varying degrees, dependent upon the nature of the coal, the proportion of fines, and the care used in distributing the coarse and fine in the pile.

Before giving the conditions for safe storage in the open, it must be stated that, for all Appalachian coals, and for most middle-west coals, there is no economic disadvantage in storage under water.

Submerged storage of coal gives absolute security against spontaneous combustion, and causes no loss in heating value that can be measured after one to two years in storage. This has been demonstrated by thousands of tests, both by the Government and by private parties.

The only possible objection to submerged storage is that a small quantity of water is absorbed. This amounts to about 2 per cent in the case of Appalachian coals, to about 8 per cent with Middle-West and Western bituminous coals, and to about 14 per cent in the case of Western sub-bituminous coals (lignite). These quantities of absorbed water from submerged storage are practically identical with the amounts that these same coals will absorb from the atmosphere. In other words, the coal in transportation from storage to consumer, moving an average distance equivalent to present movement from mine to consumer, will drain down to the normal moisture-content. It is, then, merely a question of time for drainage. The majority of the population of the United States, and the majority of the manufacturing in the country, are constricted within the limits where Appalachian coals are used, where submerged storage adds no difficulties so far as economic combustion of the coal is concerned because moisture-absorption is negligible.

The Middle-West coals contain more un-bituminized substance. They are, so to speak, intermediate, in this regard, between the lignites and the bituminous coals of the Alleghenies. There is more colloidal matter (hydrogel) in the lignites; these latter low-grade fuels (lignites) contain more "inherent" water. After having lost a portion of this through prolonged drying, they take it up again, at the same time registering an increase of temperature. This does not mean that spontaneous combustion of the coal is taking place. It is a phenomenon connected with what is called by the colloid chemist "hydration" of the colloid particles. However, it does mean that a sub-bituminous coal that has lost its free water and a considerable part of its inherent water, suffers reduction in value by submerged storage until re-dried. As these fuels enter into industry on a very small scale as compared with the Eastern coals, they need not be considered in the broad policy of storage for the benefit of the mass of the American people.

It is interesting to note that, despite the comparatively larger amount of moisture taken up by Mid-West coals, the most extensive use of submerged storage is made in that very territory. The plant of the Western Electric Co., at Hawthorne, Illinois, near Chicago, is well-known. It has

been in use for fourteen years. Another plant for subaqueous coal storage at Minneapolis, has a capacity of 12,000 tons. At Whitney, Indiana, is a sub-aqueous storage pit 1000 ft. long by 200 ft. wide, by 26 ft. deep, lined with concrete. The coal is unloaded from trestles traversing the pit, and is reclaimed by locomotive cranes. At Kankakee, Illinois, an old limestone quarry was converted into a coal storage pit some years ago. The quarry was 700 ft. long, 310 ft. wide, and 30 ft. deep, having a storage capacity of 250,000 tons. All the coal stored in this pit is screened to a maximum diameter of 3 inches. It is dumped into movable chutes, and partly washed into storage by a stream of water, and partly delivered in the pit by being pumped through a 10 inch pipe, with a 75 H. P. centrifugal. It is reclaimed by being pumped out with the same apparatus, after the manner of a suction dredge, the pump delivering the coal into perforated bucket-elevators that dump the drained coal into cars. With this equipment 2000 tons of coal can be handled into submerged storage in 8 hours, and 1500 tons reclaimed in the same length of time.

At Panama submerged storage is provided for 150,000 tons of coal.

This method of storage is so simple, its protection so absolute, and its disadvantages so insignificant, that open-air storage is not worth considering as a competitor in any comprehensive scheme for the rational control of the nation's fuel supply. Coal stored in the open air has a tendency to slack, while submerged storage preserves its physical strength. It also preserves its higher value for gas-making. Gas-works always desire fresh coal, instead of stored coal, because safe open-air storage requires that the coal shall have been seasoned for about 6 weeks before being dumped into the pile. Furthermore, safe open-air storage demands re-handling and re-stacking about every 10 weeks, which is injurious and costly. Coal stored under water may be left until wanted, without injury to its quality. There is no limit as to depth of pit or of concrete bins when submerged storage is employed, but safe open-air storage demands that the pile shall not be more than 12 ft. high, nor that any part of the pile be more than 12 ft. from an air-cooled surface.

Sub-aqueous coal-storage is safe, economical, and non-injurious. Open-air storage is only moderately safe unless every precaution has been taken; it is even then not absolutely safe, and it is more costly than the submerged system, when all factors are considered.

It has been estimated by Dr. S. W. Parr, of the University of Illinois that the lack of storage facilities for coal in our larger industrial centers necessitates a capital investment in mines and in railroad cars of \$500,000,000 in excess of what would be needed were it made possible to maintain production at a uniform rate throughout the year.

Shall we continue to force the law of supply and demand to impoverish the nation by failure to provide storage of coal? Or shall we continue to do the equivalent of trying to run the Panama Canal without the equalizing lake behind the Gatun Dam?

Two Apartments to Cost \$1,000,000.

New Orleans, La., Sept. 22—[Special.]—Two apartment houses to cost approximately \$1,000,000 will be erected on the property at the corner of St. Charles avenue and Calhoun street, which has been purchased by the Standard Housing and Investment Company. The new structures will be eight stories and of brick and steel construction, and contain 128, two-bed room apartments each.

Check-off System Outlawed.

WEST VIRGINIA COAL COMPANIES ENJOINED FROM PAYING TO UNIONS ANY MONIES NOW ON HAND OR TO BE COLLECTED—HELD THAT CHECK-OFF IS PART OF CONSPIRACY TO DESTROY OPEN-SHOP MINES—FAR REACHING EFFECT OF COURT PROCEEDING.

[Special Correspondence Manufacturers Record.]

Charleston, W. Va., September 24.

In the issuance of a temporary restraining order inhibiting the coal companies in the Kanawha field of southern West Virginia from collecting and turning over union dues under the check-off system Judge George W. McClintic of the United States District Court for the Southern District of West Virginia, has dealt a severe blow to the check-off system in West Virginia, alleged to be a part of a conspiracy to put West Virginia mines out of business and constitute the basis of the recent Cleveland agreement. The temporary restraining order was issued upon the application of a number of open shop operators and is directed against the United Mine Workers and against 20 coal companies and one individual operator in the Kanawha field who have become parties to the Cleveland agreement. The open shop operators charge that the agreement with its check-off feature is a part of a conspiracy not only to destroy their business but to interfere with the free movement of coal in interstate commerce and it is generally considered that the restraining order will become an important test case, to be carried to the highest tribunal, just as was the Hitchman case involving the sanctity of non-union contracts between coal companies and their employees, so that the final outcome will have a far-reaching effect on the question of "open shop" and "closed shop" in the coal mines of the country.

Under the terms of the temporary restraining order the defendant coal companies, their officers, agents, representatives, employees and attorneys and those in active concert or participating with them are inhibited, enjoined and restrained from paying over to the international organization of the United Mine Workers or its districts, sub-districts, locals, officers, agents, representatives, employees, attorneys or members any money or other thing of value which they or any of them have collected or may collect from their employees under the "check-off" provisions of any contract or contracts."

The effect of the issuance of this restraining order has been to suspend the payment to the union for the time being and probably for some time to come sums already collected from union miners by the defendant companies or hereafter to be collected, so that the union in District 17 will not be able to depend upon any revenue from miners now working in the closed shop mines of the Kanawha District.

In both the bill of complaint and in the argument of attorneys for the plaintiff companies it is charged that the money collected through the check-off system has been used to further a conspiracy existing since 1898 to interfere with the movement of the product of non-union mines in interstate commerce and hence to throttle competition on the part of the non-union mines. Plaintiffs also contend that the conspiracy also consisted of an effort to deny non-union workmen the right to engage in their regular employment, that of mining coal.

Attorneys for the plaintiff in asking for a temporary restraining order laid stress upon and used with telling effect the fact that the defendant coal companies in the present instance had appeared as co-plaintiffs in other injunction cases before the court and had been parties to the allegation that a conspiracy existed between the union and the operators of the Central Competitive field against West Virginia mines and hence the defendant companies in the present case are alleged to have knowledge of the existence of a conspiracy, by their own pleadings in other cases.

Application for the restraining order was made by E. L.

Greever of Tazewell, Va., and S. B. Avis of Charleston, who represent 23 coal operators of the Kanawha Coal Operators Association and who, Captain Avis has said, "have not bent the knee to the force and threats of force of the United Mine Workers of America, and refused to sign the Cleveland agreement.

Plaintiffs in this case are: the Carbon Fuel Company, Anchor Coal Company, American Eagle Colliery, Birch Fork Coal Company, Boone County Coal Corporation, Coalberg Colliery Company, Cabin Creek Consolidated Coal Company, Colcord Coal Company, W. H. Cunningham, Don Miller and Fran Enslow, partners; Dry Branch Coal Company, Illinois Coal Company, Imperial Colliery Company, Marsh Fork Coal Company, Millburn By-Products Coal Company, Mordue Collieries Company, Opperman Coal Company, Raleigh-Wyoming Coal Company, Seng Creek Coal Company, Solvay Collieries Company, Wake Forest Mining Company, Webb Coal Mining Company, Wet Branch Mining Company, Wyatt Coal Company.

Emphasis has been laid by Mr. Greever on the fact that the check-off puts the union in a position to collect union dues from members and non-members of the union because the Cleveland agreement forces the operators who signed the agreement to collect dues from all employees eligible to join the union, whether they be members or not, and with or without their own volition, all of which he declares gives the union a monopoly of mine labor and puts it in a position to control or dictate the price of coal. In his argument Captain Avis said. "We have no feelings against those who under duress signed the agreement but when they signed it they became part of the conspiracy against those who did not sign. This conspiracy was to force us to sign and was to destroy our properties and refuse to let us work if we didn't sign and was in restraint of trade. They get more than \$2,000,000 a month from the check-off, I am told, and all above salaries goes to trying to crush operators not under the union domination." Reference was made by Captain Avis to the use of funds through the check-off system to fight the Mingo operators.

About all of the trouble which has occurred in West Virginia in the last few years has been financed through the check-off. Only by means of the large sums thus secured was the union able to finance such warfare on government as the armed march into Logan county about a year ago, as an outgrowth of which Walter Allen was recently convicted of treason at Charles Town.

Contract Let for \$600,000 Temple.

Tulsa, Okla., Sept. 18—[Special.]—The contract for Akdar Shrine Temple to be erected at Fort & Denver Streets at a cost of about \$600,000 was let last week to the Sutherland Drilling and Contracting Company of St. Louis, Mo. The structure will occupy a site 140x200 feet and will be four stories high. An auditorium with a seating capacity of 2000 is included.

Building permits totaling \$1,117,905 have been issued in eight months this year at Macon, Ga., as compared with \$666,000 for the same period last year. Last month 216 permits with a valuation of \$422,534 were approved, compared with 88 with a value of \$230,810 issued in August, 1921.



AIRPLANE VIEW OF MIAMI, FLA., SHOWING CITY'S SKYSCRAPERS, AND IN THE FOREGROUND SCORES OF YACHTS ON BISCAYNE BAY.

Skyline View of Miami, Fla., Water Front.

The accompanying photograph of Miami, was taken over Biscayne Bay and is looking west over the city. At the left is shown the mouth of the Miami river, and the river itself can be seen, the city built upon both sides. The boat yards and repair plants are located up this river and also the dock of the Miami Steamship Co., which has recently been purchased by the Clyde Steamship Co., whether they will continue to use this old dock or obtain space at the new addition being made to the municipal docks has not yet been determined.

At the mouth of the Miami river the yacht anchorage begins. There in one week during the tourist season were yachts with a total value of \$10,000,000. These vessels dot the bay farther out than the range of the camera included.

Along the bay front are to be seen scores of yachts, house-boats excursion steamers, fishing boats, and other vessels tied up at the pleasure boat docks which are numerous. This space has been purchased by the city of Miami and will be filled in and a forty acre park built. It will throw the yacht basin and channel 1000 feet farther out from the bank of the bay than shown in the picture. The fill will be taken from the bed of the bay thus deepening the surrounding water over a large area.

The municipal docks are immediately to the right of the picture, but not caught by the camera. At an expenditure of \$400,000 the city is building another dock and two warehouses, doubling the capacity of the present dock. There is room alongside for a third dock of the same size. Here is the turning basin which will be greatly enlarged and deepened, the material being used to fill in the bay front park. It will be the terminus of the channel to the sea which is now 18 feet deep but the federal government has appropriated the

money to make a survey for a proposed twenty-five foot channel. Along the million dollar causeway, a few hundred feet north of the right line of photo, the city has 125 acres of land which it is planned to devote to docks and warehouses as the need of the city's shipping demands. Engineers have plans drawn which provide ample space there for more than 100 ocean going ships to dock at one time.

Additional Tankage for Humphreys-Kosse Well.

Kosse, Texas, Sept. 23—[Special.]—Besides the regular pipe line run from the discovery well of the Humphreys Oil Company at Kosse, steel tankage is being erected to care for an enormous quantity of surplus production. In the test of the well's possible output a few days ago an actual showing of 9000 barrels in 24 hours was made. This record is regarded as all the more remarkable in view of the fact that the flow was throttled down to one-fourth of the full capacity during the entire period of the test. The secure position in which the company is placed in regard to future production is due to the fact that the discovery well is situated in the center of its 6200 acres of leases. It is announced that the company is in no hurry to develop the new pool. Wells will be drilled only as the oil may be needed and as conditions may warrant production.

\$200,000 Physicians' and Surgeons' Building.

El Paso, Texas, Sept. 23—[Special.]—A physicians' and surgeons' office building to cost \$200,000 is contemplated by Dr. Roderic O'Connor of San Francisco who has purchased the property at Myrtle Ave. and North Florene street, with dimensions of 78 by 120 feet. It is understood that construction is to begin at once.

Extensive and Conclusive Demonstrations in Boll Weevil Control.

SOUTHERN MANUFACTURERS AND FIRMS INTERESTED IN COTTON PRODUCTS CONCLUDE MORE THAN 300 SUCCESSFUL TESTS IN THE SOUTHEAST—GOVERNMENT METHOD OF BOLL WEEVIL CONTROL BY CALCIUM ARSENATE STRONGLY COMMENDED.

By C. A. WHITTLE, Soil Improvement Committee, Atlanta.

The most extensive and conclusive demonstrations ever conducted to show the benefits to be derived from calcium arsenate dust as a boll weevil control measure have just been concluded. These tests extend from Andalusia, Ala. to Gastonia, N. C. centering largely in Georgia and South Carolina where the weevil was at its worst.

The object of the demonstrations is to bring to the attention of farmers the fact that calcium arsenate can be successfully used under varying conditions of soil, climate, varieties of cotton and different cultural methods employed by cotton farmers.

The business interests that financed the undertaking are not dealers in calcium arsenate, but they are vitally interested in successful cotton production. Having investigated the Government method of boll weevil control and believing that it was best, they raised between \$50,000 and \$75,000 to carry on demonstrations.

The work was inaugurated by the Virginia-Carolina Chemical Company, but much of the work was done by the Southern Cotton Oil Company. In addition there were contributions to the fund, mainly from cotton firms.

Dr. A. E. Granthem, head of the agricultural bureau of the Virginia-Carolina Chemical Company, had general charge of the demonstrations. The tests were located as far as practical in the vicinity of every cotton oil mill of the Southern Cotton Oil Company in the southeast. Five to ten farmers were enlisted at each place. Ten acres were turned over for the test on each farm. Five acres of the ten were poisoned and five were left unpoisoned. The whole ten acres were otherwise given the same treatment. This, of course, affords opportunity for comparing poisoned and unpoisoned cotton and for estimating how much cotton has been saved from weevil destruction.

The local supervision of the demonstrations was given by the managers of the oil mills of the Southern Cotton Oil Company. They followed instructions and saw to it that the rules laid down for poisoning the cotton were carried out.

The demonstrations were so thoroughly planned and so scientifically carried out that they have been accepted as conclusive by agricultural authorities. A representative of the United States Department of Agriculture was assigned to make observations of these tests, and county agents and other agricultural agencies have been directing the attention of farmers to them.

The number of tests and the extent of territory covered make these demonstrations the most conclusive that have ever been carried out, especially for Southeastern conditions. They have been conducted under a great variety of conditions. Soils have differed; different varieties of cotton have been treated; some of the cotton was planted late and some early; some was planted thickly in the row while some was planted widely apart; excessive rain was confronted in a number of places, in others a drought; various cultural methods were employed. In fact, these variations fairly represent every condition that a cotton farmer is likely to confront.

Under all these conditions calcium arsenate dust has been successful in controlling the boll weevil. If successful under these diverse conditions it seems conclusive that calcium arsenate dust can be generally recommended and can be depended upon by farmers in combating the boll weevil.

The amount of cotton saved from the boll weevil varies in

different places. Where the weevils are exceedingly numerous, of course, the difference is more marked than where the infestation is slight. The productiveness of the land also measures to some extent the amount of cotton that can be saved by poisoning and the amount of profit to be derived.

But in all the 302 tests carried out the success of calcium arsenate is demonstrated. In the neighborhood of the tests many farmers have followed the methods used on the demonstrations and have already won success. Many others are visiting the demonstrations and learning lessons that they will follow next year.

All the interests that joined in conducting these demonstrations are well pleased with the outcome, and business interests in general in the South regard the demonstrations as one of the most hopeful and encouraging developments that has occurred in the southeast since the invasion of the boll weevil.

Fertilizer manufacturers now look upon calcium arsenate as an insurance of fertilizer accounts, whereas they have been fearful that the boll weevil would be so destructive that the cotton farmer would be a very doubtful risk.

With the great increase in the use of calcium arsenate dust in the Southeast this year, coupled with the great demonstrations like that discussed here, it seems that it is coming very rapidly into use in the South.

The demand for calcium arsenate was so much greater than the manufacturers of the material anticipated this year that they were not prepared to take care of the orders that came in. Next year it is evident that the demand will be greatly increased and manufacturers should be prepared to meet it and for dusting machines as well.

Other methods of fighting the boll weevil are quickly giving way to calcium arsenate dust. This method was devised by B. R. Coad and his assistants at Tallulah, La. They are representatives of the United States Department of Agriculture, who have worked for years on the problem. They have tried every known or suggested means of combating the weevil and they are still trying out and testing whatever new method is offered, but outstanding and persisting as the best yet devised is the calcium arsenate dusting method, as shown by results.

Working on Plans for \$5,000,000 Veterans' Hospital at Gulfport, Miss.

Drawings are under way for a group of 29 buildings to be constructed for the Veterans' Hospital at Gulfport, Miss. It is expected that bids will be asked some time in November. The drawings and specifications are being made by the Bureau of Yards and Docks, Navy Department, Washington, which will have charge of the construction work. The system of hospital buildings is estimated to cost \$5,000,000.

\$800,000 Office Building at St. Louis.

St. Louis Mo., Sept. 16—[Special.]—The erection of an \$800,000 office building, 12 stories high at the southeast corner of Grand Boulevard and Lucas Ave., will be started as soon as detailed plans are completed by the architect, according to an announcement by Nathan Frank, president of the Famous-Players-Missouri Corp. Helfensteller, Hirsch & Watson, architects, are now preparing plans for the structure which will occupy a site 120x130 feet.

Tulsa's Building Program Reaches \$15,000,000

Tulsa, Okla., Sept. 22.—Including the new 16-story office building for the Central National Bank, the construction program for this city has reached the \$15,000,000 mark. Plans for the structure are now being drawn.

In this \$15,000,000 total is included the Spavinaw water project of \$6,800,000. Contracts on this municipal project are to be let this month. The reservoir will be 50 miles from Tulsa with conduit to bring the water to the city. Business and public buildings make up \$6,000,000 of the program. The remainder of \$2,200,000 is being spent on apartments and homes.

The list of business and public buildings includes: The Atlas Life building, 12 stories, nearing completion; Exchange National Bank addition, 13 stories, excavation complete and foundation begun; National Bank of Commerce, 7 stories, steel work finished; Mid-Continent building, 10 stories, foundation complete and steel work begun; Gillette building, 8 stories, foundation complete; Wright building annex, 8 stories, just completed; Mayo hotel, 18 stories, excavation complete; Masonic temple, 4 stories, under construction; Adkar temple, 3 stories, contract let; Central National Bank building, 16 stories, plans accepted and contract to be let shortly.

In addition to these, there are several smaller buildings under construction in the business part of Tulsa. Others have been finished recently.

The Mayo hotel, to be 18 stories, will be the largest hotel in Oklahoma. It is being erected at Fifth and Cheyenne streets. More than a year will be required for its completion.

Construction on the new building for Adkar temple, A. A. N. O. M. S., is to begin by October 15. This is to cost \$750,000. It will include a theater with seating capacity of some 2000. A ball room with space for 1000 couples will be provided. The new building will be so arranged that the auditorium can be used without interfering with the parts devoted to constant use of members of the temple.

The Spavinaw water project calls for a dam of 79,000 cubic yards of concrete; 182,000 cubic yards of earth embankment; 29 miles of 60-inch and 25 miles of 54-inch pre cast reinforced concrete pipe; 3050 feet of monolithic concrete conduit, and a reinforced concrete pressure reservoir of 10,000,000 gallons capacity.

One of the most recent home building projects calls for the erection of 50 cottages and bungalows. These will be built by one firm and will sell at from \$6000 to \$8000 each. This project, with paving, sewer and water mains, will require \$500,000.

Apartment buildings and scores of homes make up the total building program for Tulsa.

Keeping Up With the Demand for Portland Cement.

A report issued by the Portland Cement Association, Chicago, reviews conditions in the cement industry, as follows:

"When building permits issued in the larger cities of the country began breaking all records last March, the indications were that the months of September, October and November would see an enormous amount of construction activity, as a result of the permits. During the first seven months of this year permits issued in 178 representative cities totaled \$1,461,094,000, or 66 per cent over permits for the same period last year. The same period for 1920 showed permits amounting to \$976,052,000.

"In the highway construction field 1921 was a record breaker. Over 6000 miles of concrete roads were constructed during that year. Thos. H. MacDonald, of the United States Bureau of Public Roads, estimated that \$720,000,000 was on hand for road work during 1922 and all indications pointed to construction greater than the preceding year. Contracts

for concrete roads awarded up to September 1 exceeded the total contracts for record-breaking 1921.

"With the calling of the coal strike on April 1 and the railway shopmen's strike the first of July, the cement industry found itself confronted with several serious problems. The manufacture of cement demands large quantities of coal, for the industry is the fourth largest consumer of coal in the country. Over 7,000,000 tons were burned in cement mills last year, as it requires 200 pounds of coal to make one barrel of cement weighing 376 pounds. Several months after the start of the coal strike some cement mills found it more and more difficult to obtain adequate supplies of coal. An increase in the price of coal to the mills meant increased production cost. During August several cement mills were forced to close, or curtail operations, and during the first part of September other mills were similarly affected.

"However, in spite of these difficulties, the cement industry produced 11,664,000 barrels of cement during the month of August, according to figures compiled by the United States Geological Survey. This month's production was the largest in the history of the industry. Shipments for August amounted to 14,361,000 barrels, or more than in any month on record. To ship this enormous amount of cement required in construction and highway work, it was necessary to deplete the reserve stocks, and the government figures show that only 5,727,000 barrels of cement were in stock at the end of August or the lowest reserve stock this year. In an effort to supply cement for needed projects a number of mills changed over from coal to oil burning, and many kilns have been operated in this way that would have otherwise been idle on account of lack of coal.

"Reports from various sections of the country indicate that the situation is quite variable. In Western Washington, Western Oregon and Northern California there has been considerable difficulty in the delivery of cement on the job due to lack of sufficient cars. The extensive construction program may be materially affected unless this situation is straightened out shortly. Texas is feeling the effect of the car difficulties, and delivery of material from the East is said to be hampered. The Nebraska territory has experienced no serious delays, but as most of the work depends on supplies from day to day, a change for the worse would be quickly felt. Throughout the Middle-West construction activities have been reduced on account of coal and car shortages. Virginia and West Virginia report an unfavorable situation because of the scarcity of labor, due to the opening of the coal mines. Road contractors find it difficult to secure as many men as they need. The feeling throughout the South is one of optimism, although the coal and car shortages are having their effect.

"In spite of all the difficulties of the last few months, it is likely that the cement production will compare favorably with other years."

Tourist Hotel to Cost \$1,000,000.

Sarasota, Fla., Sept. 20—[Special.]—Bids will probably be opened here in December for at least the first wing of a tourist hotel to have ultimately 1000 rooms. The plan is to have five wings of 200 rooms each and the ultimate cost of the structure will be approximately \$1,000,000. Architects are Hetherington & Son of Chicago, Ill.

To Specialize on Farm Loans.

Louisville, Ky., Sept. 22—[Special.]—The new Southern Trust Co. has been organized here with \$200,000 capital and will make a speciality of mortgage loans on farm lands in this state. The president will be Casselberry Dunkerson with Albert C. Dulaney, vice president and manager.

Without Capitalism Civilization Cannot Exist.

EMBODIMENT OF COLLECTIVE HUMAN EFFORT THROUGHOUT THE AGES—EXAMPLE OF CONSTRUCTIVE CO-OPERATION BY HOLDERS OF SECURITIES.

By SAMUEL H. BARKER, of Philadelphia, Financial Editor *The North American*.

Civilization rests upon capitalism. Therefore, its necessity, right, power and benevolence as the instrumentality for vast and splendid accomplishment in the great common good should be so clearly and definitely comprehended by all that every one will be militant in its support.

More than anything which has been evolved down through the ages, capitalism is the expression, embodiment and power of responsible, collective human effort. Not a man, woman or child but has direct interest in it and what through its assistance has been brought into being for service of humanity. It is a great, inanimate thing, but it carries and applies living force. It enables the many to undertake and to do tremendous things which would be utterly impossible for individuals, no matter how masterful and wealthy they might be.

Only with the help of capitalism, which is the highest exemplification of human confidence, basing on honor and integrity, commanding the savings and resources of the multitude, in fact of all who conserve created wealth, can progress be effectually made in those truly titanic projects upon the bold and successful prosecution of which vitally depends the welfare of the human race.

Capitalism is not on trial. It has proved its value in service of all mankind. Bolshevism attempted in a different way to do what capitalism has accomplished. But Bolshevism was a theory founded upon misconception of human nature. It failed accordingly. Capitalism lives on, stronger and more needed than ever. It has done and enabled noble things. It lends itself to carry out those wonderful and vast ideas which spring from the minds, hearts and imaginations of men and women whose study, work, thought, genius and vision are of creative order.

Thus capitalism has built railroads, put mammoth ships on the seas, opened the bowels of the earth and drawn forth nature's resources, constructed huge manufacturing works, created gigantic electric plants and sent energy far and wide, tied the world together by telegraph, cable, telephone and radio, made productive opportunity and afforded comforts to the masses. So is capitalism the handmaiden to all humanity.

Now, by what is capitalism represented? Good faith and certificates of ownership in all that human endeavor has created. It is the deed for the farm and the home. It stands for wealth, for the proceeds of work, applied thought and thrift. Everyone who owns a corporate obligation is a stockholder in capitalism, a supporter of its operations, a partner in its activities. The savings of previous generations, as well as this, are in its keeping, not idle and profitless, but in constructive and producing uses.

What is so much for the common good deserves general and whole-hearted support. Because capitalism has been abused (the finest things which have been evolved and exist under divine laws are capable of abuse) it has been misunderstood and attacked. But it is most important that it should be built stronger, and, rightly directed, given its fullest scope.

This is the thought. In the United States there are millions, who, as owners of the corporate obligations of railroads, utilities, industrial companies, etc., have direct interest, personal and selfish perhaps, but, at the same time, in larger effect resulting for the common good, in the fullest and best development of all such operations and in their most efficient conduct. Upon such premises all these people,—and they number among them savings bank depositors and those whose

lives, health and prosperity are insured,—owe it to themselves as well as to the whole people and their country to interpose their voice against hurtful legislation and to do all in their power to clear the way for more and more effective operations of that stronger and better employment of capitalism which enlightened intelligence is certain to evolve.

Stockholders of the Pennsylvania Railroad Company made a notable start on such course of action at their annual meeting, April 11 last. They adopted unanimously as an expression of opinion a statement which I then submitted to them, as follows:

"Proud that we own The Pennsylvania Railroad Company, controlling the most important transportation system in the country, and glad to have made capital investment enabling the services it performs, we feel, as stockholders, that the 142,000 of us have closer responsibility and larger duty in the matter than heretofore. Therefore this statement, with belief that it will reach the mind of the American people, help sweep away misapprehensions and hurtful prejudices, create better co-operation for the common good, and make for that reasonable, intelligent understanding and accord between employees and managers, railroad and public, which is essential for happy relations, constructive action and best results.

"We have particular right to urge our thought in these matters. Pennsylvania Railroad stock represents cash invested in excess of par. For the \$499,173,400 stock outstanding the company received \$525,635,301. Beyond that, in huge way, net income, which might have been paid in dividends, was currently invested to improve and expand the railroad facilities, so that the great territory, innumerable and varied industries, and millions of people provided with transportation by the Pennsylvania System might be better served. Thus there has come to be a total system investment of \$2,266,043,831, against which net capitalization held by the public is only \$1,420,775,280, or \$845,268,551 less.

"One result has been to keep fixed charges down and to enable the railroad to perform freight and passenger service at proportionately lower rates. As stockholders, with all the risks of the business, which have been demonstrated real in that during months the company barely earned fixed charges, at times not operating costs, we have averaged no more than legal interest from our investment; lately only at 4 per cent per annum.

"Our interest as investors in the leading American railroad system, not less than that of the entire public, is in transportation at lowest cost for adequate and fully maintained service, with such margin of profit from the business as will carry it on, develop it to meet the needs of the country, assure the existing investment and so bring in additional required capital. Efficient, progressive management, must join with loyal, full service by employees. It is increasingly essential that utmost service shall be got out of every railroad facility, whether tracks, terminals, cars or locomotives.

"The railroads are vital to the life of the country. They are great buyers and consumers. They take far more coal and steel than any other single industry. Directly, they employ some 1,750,000 people, whose earnings support about a twelfth of our population. Indirectly, in production of what they require, they make work for other millions. They are owned by the whole people, who, as individuals or through their deposits in banks, their payments for insurance, are the actual investors in American railroad property which totals \$20,000,000,000 constituting not only a huge and vital part of the working facilities of the country but a living part of its wealth and financial power.

"Not less than the coal industry, steel industry, copper industry, textile industry, farming industry, is the railroad industry entitled to fair protection under the laws and friendly consideration in support of its highly necessary operations, and that expansion of facilities which will serve, not retard a growing country.

"Of prime importance are proper relations with employees, equitably compensated for faithful service. The labor question goes with the new capital problem and must be worked out with it fairly and with enlightenment, for the best interest

of all. Public confidence, respect and support for the railroad industry will grow in proportion as employees, management and stockholders join in united way to provide transportation with largest efficiency and to emphasize its value.

"All this we present in the larger interest of the whole people, of which we are not less a part because partners in the railroad business. As American citizens, as well as Pennsylvania Railroad stockholders, we are concerned in its operations, and our interest, as desire, is to help in all ways to make them most effective. With faith in those managing the Pennsylvania System, we count also on the army of employees to serve it and the public well, and, in the greater interest of all Americans we seek their informed co-operation in progressive and constructive working out of the railroad problem."

\$60,000,000 Increase in Value of Alabama Farm Products.

Alabama's farm products are of \$60,000,000 greater value this year than last, according to the forecast furnished by T. W. Gist, agricultural statistician, United States Department of Agriculture. The value of ten leading crops, calculating the value of prospective production on the basis of present prices, amounts to \$193,463,000, compared with a value of \$133,407,000 for the same ten crops harvested last year. These ten crops constitute about 75 per cent of the harvested crops of the state.

The following forecast of production of the ten crops named is given, comprising a computation of September 1 condition into the acreage growing, and compared with the harvest of last year:

	Forecast 1922	Production 1921
Corn, bushels	50,904,000	62,251,000
Cotton, bales	\$26,000	580,000
Peanuts, bushels	5,371,000	7,260,000
Hay, tons	714,000	801,000
Sweet potatoes, bushels	14,605,000	12,150,000
Irish potatoes	4,920,000	2,400,000
Sorghum syrup, gallons	7,040,000	7,650,000
Sugar cane syrup, gallons	6,645,000	8,760,000
Oats, bushels	3,719,000	4,404,000
Wheat, bushels	300,000	321,000

These crops, at present prices, would bring the values given below, compared with the values stated for 1921:

	Present Value	Value 1921
Corn	\$45,814,000	\$38,844,000
Cotton	97,368,000	50,800,000
Peanuts	6,015,000	5,982,000
Hay	11,424,000	12,380,000
Sweet potatoes	14,145,000	8,810,000
Irish potatoes	7,675,000	4,080,000
Sorghum syrup	2,816,000	3,213,000
Sugar cane syrup	3,987,000	5,413,000
Oats	3,719,000	4,404,000
Wheat	300,000	321,000

Total value ten crops..... \$193,463,000 \$133,407,000

The supply of hogs in Alabama for fattening on September 1 this year was estimated as 97 per cent of the supply a year ago. At that time there were available 1,538,000 hogs; at present there are 1,492,000.

The total production of wool in the state this year was 98 per cent of that produced last year.

Hotel Chamberlain to Be Rebuilt at Cost of \$2,000,000.

Norfolk, Va., Sept. 22—[Special.]—At an estimated cost of \$2,000,000 the Chamberlain Hotel will be rebuilt, a committee of business men from Hampton, Old Point and Newport News having reached this decision early this week. The personnel of the committee is as follows: F. W. Darling, J. S. Kimberly, Nelson S. Groome, Harry Houston, Harry Holt, Homer L. Ferguson, Pres., Newport News Shipbuilding & Drydock Co.; Col. R. P. Davis all of Newport News, and Harry Walcott of Norfolk. It is understood that \$500,000 has already been pledged, and it is not anticipated that difficulty will be encountered in arranging for the balance required.

Sinclair to Construct Pipe Line from Mexia to Houston Ship Channel—Capacity 25,000 Barrels Daily.

Tulsa, Okla., Sept. 22—[Special.]—Pipe line facilities of the Sinclair Pipe Line Co. are to be doubled between the Mid-Continent fields and the northern terminus at Chicago. From the present southern terminus of the line at Mexia, Tex., the line is to be extended to the Sinclair Refinery on the Houston Ship Channel at tidewater below Houston, Tex.

Between Drumright, Okla., and Chicago the double trunk system will require 429 miles of 12-inch line and 256 miles of 8-inch line. The delivery capacity will be increased from 40,000 to 90,000 barrels daily. The distance from Mexia to the refinery below Houston is 165 miles. In this a combination of 8-inch and 10-inch loops will be used and the capacity will be 25,000 barrels daily. The line will connect all of the refining facilities of the Sinclair interests with their transportation system.

Both ventures call for the building of pump stations, storage farms and other requirements of an increased pipe line capacity. On the Houston-Mexia line three new pump stations will be built; six 55,000 barrel tanks will also be erected.

Work on the lines will begin as soon as funds are available from the \$25,000,000 bond issue now being put on the market. The work should be completed within a year. With the new line, the Sinclair Pipe Line Co. will have a capacity of 40,000 barrels of crude oil daily between the Mid-Continent fields and Chicago.

\$35,000,000 Oil Merger, With C. F. Colcord as President—Increased Operations Probable.

Oklahoma City, Okla., Sept. 19—[Special.]—The North American Oil Company, a \$35,000,000 corporation, has been organized here with C. F. Colcord as president of the merger which includes nine oil companies with properties in several states.

The new company has 40,000 acres of leases of which 4500 acres are producing with 125 wells thereon. Producing properties are located in the Okmulgee, Duncan and Cement fields in Oklahoma, the Bantoul and Fox-Brush fields in Kansas, the Burk Burnett, South Bend, Bunker and Herron City pools in Texas, and the Eldorado field in Arkansas.

Three refineries are located at Arkansas City, Pemeta, Okla., and Rosedale, Kans., 758 tank cars, a string of filling stations, pipe lines and loading racks in the Burk Burnett and Kansas fields, and storage tanks at various points.

Plans are under way for adequate financing which will permit increased operations and the purchase of additional production and other properties.

Tennessee Utilities to Spend \$2,000,000 Next Year.

Nashville, Tenn., Sept. 21—[Special.]—The State Utilities Commission has been furnished with figures indicating an expenditure of approximately \$2,000,000 within the next year by the street railway, power and gas companies in the larger cities of Tennessee. During the past six months more than \$1,000,000 has been expended in improvements by the public utilities of Memphis, Knoxville, Nashville and Chattanooga.

Expenditures during the current year are planned as follows: Knoxville Railway & Light Co. \$250,000; Tennessee Power Company, \$300,000; Bristol Gas & Electric Co., \$25,000; Tennessee Eastern Electric Co., \$500,000.

The National Refining Co., of Tulsa, Okla., will build 175 miles of pipe line to supply crude oil for its plant at Coffeyville, Kansas. One line will go to the oil fields of Butler County, Kansas; another to the fields in Osage County, Oklahoma. Two pumping plants will be built for the lines.

Houston Daily.
facilities of
ween the
Chicago.
at Mexia.
refinery on
ston, Tex.
e double
e and 256
increased
nce from
. In this
used and
will con-
nterests

stations,
ased pipe
ew pump
ll also be

are avail-
ut on the
a year.
ll have a
ween the

as Presi-
e.

the North
tion, has
ent of the
properties

of which
. Produc-
ican and
rush fields
nd Herron
ansas.
, Pemeta,
g of filling
arkburnett
points.
which will
additional

ext Year.
e Utilities
cating an
the next
iles in the
x months
rovements
Nashville

lanned as
; Tenne-
electric Co.
0.

build 175
at Coffey-
of Butler
ounty, Okla-
the lines.

TYPICAL OF SOUTHERN MINERAL RESOURCES.



Extensive display of mineral and chemical resources of the South exhibited by the Southern Railway at National Exposition of Chemical Industries, New York, September 11-16.

Two Large Power Dams Planned on Ouachita River, First to Cost \$3,000,000.

Little Rock, Ark., Sept. 22—[Special.]—The Caddo Power & Irrigation Company has been granted a license by the Federal Power Commission of Washington for the construction of two large dams on the Ouachita River near Hot Springs. H. L. Remmel is president of the Company, and H. C. Couch of Pine Bluff is Secretary. Assurance was given to the commission by Mr. Couch that financial arrangements had been completed to begin work on the first dam five miles south of Hot Springs, the cost to be \$3,000,000. At the same time construction will begin on the second dam at Blanchard Springs, this work costing \$8,000,000. In addition to the foregoing the project contemplates a third dam between Malvern and Hot Springs to develop ultimately 100,000 horse power.

Transmission lines will be constructed to connect with the line of the Arkansas Light & Power Company, who will distribute the power.

A feature of the development is that the dams will result in the regulation of the Ouachita river preventing overflows in the future.

To Link Up Towns of Southeast Missouri by Transmission System.

Cape Girardeau, Mo., Sept. 22.—[Special.]—Construction has begun on a transmission system that will include ultimately every town in southeast Missouri, according to the announcement of E. A. Hart, manager of the Missouri Public Utilities Company. The power is to be supplied from central plants at Cape Girardeau and Poplar Bluff, both of these stations being enlarged to accommodate the extra work and designed for one plant to handle the entire load in the event of accident to the other plant. The following towns have been designated as the first to be supplied with electric current from the central points: Cape Girardeau, Forfelt, Illino, Sikeston, Charleston, East Prairie, Morley, Blodgett, Oran, Chaffee, Bertrand, Dudley, Essex, Morehouse, Poplar Bluff and Fisk.

\$2,000,000 Steel Plant Promised for Houston—Capacity 60,000 Tons Annually.

Houston, Texas, Sept. 25—[Special.]—According to an announcement made last week by Glenn C. Tobias, broker, the Armstrong Steel Co. will erect a \$2,000,000 plant in this city, in addition to enlarging and improving the present plant of Geo. W. Armstrong & Co., Inc., at Fort Worth. Upon completion the headquarters will be moved from Fort Worth to this city. The local plant will have an annual capacity of 60,000 tons of steel products from pig iron and scrap iron, using an open hearth process. Two electric furnaces will be installed at the Fort Worth plant, the annual output of which is now about 40,000 tons annually.

It is believed that the establishment of this new plant will attract many kindred industries which use steel products such as structural steel shapes, plates, bolts and nuts, etc., and that materials will be obtained from the Armstrong plant.

Details regarding the plans of the new company which will be financed under the supervision of Glenn C. Tobias are included in a telegram from Mr. Tobias to the MANUFACTURERS RECORD as follows:—

"Proposed plant of Armstrong Steel Co. to be built at Houston will cost \$1,500,000 to \$2,000,000 and will consist of equipment required for making steel products such as cotton ties, merchant steel bars, structural shapes, oil well supplies, etc., by open hearth process. Capacity about 60,000 tons annually. Company also has plant at Fort Worth, Texas, and will install there two electric furnaces giving annual capacity of 40,000 tons. Total capital both plants will be about \$4,000,000. George W. Armstrong, chairman of Board of Directors, and John H. Kirby of Houston, director. Richard Van Zandt is president, formerly Governor Federal Reserve Bank of Dallas."

A store and office building costing \$100,000 is to be erected at Panama City, Ky. John W. Crone & Son of Winchester, Ky., are the architects.

THE IRON AND STEEL SITUATION

Situation Easier at Pittsburgh, With Increased Production.

Pittsburgh, Pa., Sept. 23—[Special.]—With the increase in steel production that has occurred since the end of August the situation presents an easier aspect. Quite a number of independent mills are now able to make deliveries on new orders in about 30 days in the majority of products, including nails, sheets, tin plates, bars, shapes and plates, but not including tubular goods, deliveries from pipe mills, particularly in butt weld sizes of merchant pipe, being still greatly in arrears. The Steel Corporation cannot make early deliveries as a rule, as it is comfortably sold up far ahead, partly on account of its prices having been in most cases the lowest in the market, the independents having been asking premiums on account of their earlier deliveries.

Except for very small lots for spot or very prompt shipments, price ranges are as follows: Bars, \$1.90 to \$2.25; shapes and plates, \$2.00 to \$2.25; nails, \$2.60 to \$2.75; black sheets, \$3.35 to \$3.50. Tin plates are at a uniform price of \$4.75, and some mills are able and even anxious to make early deliveries. Pipe on the other hand is delayed in delivery but in general is at a uniform price for mill sales, with a basing discount of 68 per cent. Hoops, bands and hot rolled strips are at a general base price of \$2.75, but with \$3.00 being obtained on light gauges and narrow widths.

The rate of steel production has increased from about 50 per cent of capacity at the end of August to nearly if not quite 65 per cent at the present time. Requirements of the trade to the end of the year will probably be taken care of comfortably by a continued operation at about 65 per cent. This is fortunate for consumers since there is little prospect that the mills could operate at a much higher rate in the near future. The last weekly report of the Geological Survey expresses the opinion that on account of transportation limitations production of bituminous coal will hardly pass above 1,600,000 tons a day, a trifle under 10,000,000 tons a week, the present rate. If so, the iron and steel industry can hardly expect much more coal and coke than it is now receiving.

There are thousands of men in the Connellsville coke region who still consider themselves on strike, but for a fortnight past the production of the region has been limited, for all practical purposes, by transportation conditions. Thousands of men are working in the region who did not work there before.

Connellsville coke has advanced in the week, being now quotable at about \$12 for furnace and \$13.50 to \$14 for foundry. Only a very few furnaces have been able to pick up Connellsville coke in the past month, for resuming operations, and it does not look as if any more can do so now, as offerings are being taken by miscellaneous consumers, other than blast furnaces. In particular, a strong demand has arisen for furnace coke for domestic and other heating purposes.

The pig iron market continues stagnant, with offerings limited and consuming demand very light, as consumers do not seem to be in position to pay prices asked, while any volume of buying would send prices still higher. The situation may be relieved by steel works offering iron in the market, the steel works having been able to increase production more readily than the merchant furnaces, chiefly on account of having by-product coke ovens, while some of them are likely to have surpluses since steel is not selling very freely at the moment. The market is quotable at about \$34 for Bessemer, \$30 for basic and \$35 to \$36 for foundry, valley basis.

Demand for steel is almost wholly for early deliveries and is not particularly heavy at that. Prospects are that present delivery premiums will gradually fade away and a stable price basis be developed for forward buying. Expectations are that there will be fairly heavy requirements in steel for 1923 and when actual tonnage business is to be done steel sellers and buyers have never had any difficulty in arriving at a settling basis to enable the business to be put through.

There is fairly good buying of rails at the present price of \$40, a price the mills have extended to October 1, to secure winter rollings, the price then to advance to \$43.

Improvement in Transportation the Encouraging Factor in Birmingham District.

Birmingham, Ala., September 25—[Special.]—With the transportation facilities easing up some, impetus in pig iron shipments is being felt in the Birmingham district and consumers are advising of need for the product. In the meantime, there is still buying and spot iron is asked for right along, this product bringing up to \$28.50 per ton, No. 2 foundry. The base price is strong at \$27.50 per ton, 1.75 to 2.25 per cent silicon, with no indication that a lower price will be acceptable for some time. Production is to be materially increased, the blowing in of the big No. 1 rebuilt blast furnace of the Tennessee Coal, Iron & Railroad Company which when in full operation will have a daily output of upwards of 600 tons, to be followed by other smaller iron-makers.

The blowing in of the blast furnace at Ensley by the Tennessee Company is looked upon as an event in industrial circles and the conduct of the furnace is to be closely watched. Extraordinary machinery, blowing engines and other appurtenances had to be brought in for this furnace and a large quantity of raw material will have to be supplied steadily to keep the production up to the mark. Surplus iron on yards may be held down under the 100,000 tons notch, the total on September 1 being 72,000 tons. The rail accommodations will pick up immediately, two of the systems in this district, including the Southern Railway, having signed agreements with the employes who have been on strike. Other lines, such as the Louisville & Nashville, the Frisco and the Illinois Central have recruited their forces for the shops to such a state that the assertion is made that they have almost as many men as they could ask for under the circumstances, with no inclination to make agreement with the old employes at the expense of those who took work in the shops during the strike.

Not only are the furnace interests encouraged by the easing up of the rail situation but manufacturing plants, cast iron pipe plants, foundries and machine shops, mining interests, structural steel fabrications and others. Considerable traffic has been delayed and is to be hauled out as soon as possible. Cast iron pipe plants in particular have many contracts in hand and the present outlook is for better operation during the winter months than for several years past. Brighter prospects are apparent now that before the real hard weather there will be delivery on a good quantity of cast iron pipe. Shipments of the product to the far western sections of this country, via the Warrior river to Mobile and thence through Panama canal to California ports continue and statement is made that more or less of this movement is booked for many months to come. Sanitary pipe plants are again taking on a pace as supplies can be delivered with more ease.

A casual survey indicates that furnace interests have sold a considerable tonnage of iron ahead, one of the larger companies, according to reports having booked upwards of 100,000 tons. The production in Alabama is now over 205,000

tons monthly. Steady shipment will be necessary to reduce this together with the probable make.

Birmingham's two car building plants, the Chickasaw Shipbuilding & Car Company and the Virginia Bridge & Iron Company have orders in hand and in sight sufficient to warrant the assertion there will be active operation for a long time to come, railroads evincing intentions of adding to and improving their equipment. Output at the Chickasaw plant in Fairfield has reached 25 new cars daily and quite a number of rebuilt cars.

The scrap iron and steel market has taken on a sudden impetus. Quotations for all scrap, with the exception of heavy melting steel, which is controlled by one of the larger consuming interests of the district, have been ascending and the market is quite feverish. Heavy melting steel is being held by dealers at \$20 which is under the prices obtained in the north. Fifteen dollars is the maximum price at which the larger consuming interests are said to be purchasing. No. 1 cast scrap is being sought in local territory in quantity while stove plate is also wanted. The steady advances have brought prices up to a lofty position in the last two weeks.

Coal production in Alabama promises to take on a little improvement as the railroad situation improves, especially the car supply on the Southern Railway. The shops of the company are now in full operation again. The output reached the maximum height of 400,000 tons in a week. It fell down to 345,000 tons and has been around that figure for the past few weeks, the transportation facilities being responsible. More cars are now available and expectations are that this week will see at least 380,000 tons, if not more produced. There is a strong demand for the product and lifting of priority orders on several commodities will bring about further spread of the market.

The coke market in Alabama is also strong and with better delivery, better feeling is noted. There is no reduction in prices as yet, \$7, per ton for foundry coke being the base price. Production is the same as for several weeks. Demand is still steady.

Pig iron and iron and steel quotations follow:

PIG IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$27.50 to \$28.50; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$28.00 to \$29.00; iron of 2.75 to 3.25 per cent silicon, \$28.50 to \$29.50; iron of 3.25 to 3.75 per cent silicon, \$29.00 to \$30.00; iron of 3.75 to 4.25 per cent silicon, \$29.50 to \$30.50; charcoal iron, f. o. b. furnaces, \$34.00 to \$35.00.

OLD MATERIAL.

Old steel axles.....	\$22.00	to	\$25.00
Old iron axles.....	25.00	to	26.00
Old steel rails.....	15.00	to	16.00
Heavy melting steel.....	15.00	to	20.00
No. 1 R. R. wrought.....	20.00	to	22.00
No. 1 cast.....	20.00	to	23.00
Stove plate.....	19.00	to	20.00
Old car wheels.....	18.00	to	20.00
Old tramcar wheels.....	22.00	to	23.00
Machine shop turnings.....	9.00	to	10.00
Cast iron borings.....	12.00	to	13.00
Cast iron borings (Chem.).....	15.00	to	16.00

Steel Company to Resume Operations.

Clarksburg, W. Va., September 24—[Special.]—After a suspension covering a period of several weeks it will be possible to resume operation at eight of the twelve hot mills of the Weirton Steel Company in this city on October 2, according to announcement made by O. H. Burgham, general manager of the Clarksburg plant. There is a prospect that it will also be possible to resume production a little later at the other four mills.

West Palm Beach Active in Dwelling Construction.

West Palm Beach, Fla., Sept. 22—[Special.]—Since the first of January dwelling houses have been erected in West Palm Beach at a cost of \$644,000. As the total for 1921 was \$967,000, it is anticipated that the present year will considerably exceed that figure. The total construction of all classes to date as shown by building permits issued by \$2,023,264.

RAILROADS

More Large Equipment Orders.

Baltimore & Ohio Railroad has ordered 1000 hopper cars from the American Car & Foundry Co., the cost of this equipment being about \$1,700,000, which makes the total value of equipment ordered by this road during the year approximately \$16,000,000. The orders include 100 locomotives, most of them for freight service; 6000 steel hopper cars for carrying coal and other bulk freight, and 2000 box cars.

American Locomotive Co. has received large orders for engines recently and a strike settlement has been made at the Dunkirk, N. Y. works of the company. Recently they have received orders for \$13,000,000 worth of engines, including 30 Mallet type locomotives for the Norfolk & Western Railroad, 25 Pacific type locomotives for the Atlantic Coast Line and 25 Mallet type for the Chesapeake & Ohio Railway. New York Central Railroad has also ordered 90 engines from these works and other orders have come in from several lines.

Nashville, Chattanooga & St. Louis Railway has ordered 7 Mikado type locomotives from the Baldwin Locomotive Co.

Texas & Pacific Railway has ordered 16 locomotives, (8 Pacific type and 8 switching engines), from the American Locomotive Co., besides a 150 ton wrecking crane. This road has also ordered 150 steel tank cars for oil traffic and of 10,000 gallons capacity. They will be built by the American Car & Foundry Co.

Heavy rail orders are expected to be placed soon for next year's delivery by several of the trunk lines including 200,000 tons for the Pennsylvania, 200,000 for New York Central, between 150,000 and 200,000 tons for the Baltimore & Ohio, etc.

A New Railroad Projected in Florida.

A charter for a new railroad to be known as Florida Citrus Highlands Railway has been published at Plant City, Fla., and bearing the names of E. T. Roux and H. L. Askew, of that place besides the name of C. E. Lanier, of Avon Park, Fla. as incorporators. It is proposed to build a line from Lake Garfield in Polk County, Fla., to Sebring, in Highlands County, a distance of about 47 miles. Extensions and branches may also be constructed under the charter which provides that the capital stock shall be \$500,000 and that the company's limit of indebtedness shall be \$5,000,000. Mr. Roux is president, Mr. Lanier vice-president and Mr. Askew secretary and treasurer.

President Roux writes the MANUFACTURERS RECORD "This railroad is now being built from Lake Garfield, a point on the Seaboard Air Line Railway, through Avon Park to Sebring, and that it will pass through the largest citrus development in Florida. This is also a splendid section for early vegetables. This traffic will be delivered principally to the Seaboard Air Line."

Line Proposed for Mineral Development.

Several years ago construction of a railroad from Chattanooga, Tenn., to Birmingham, Ala., following the ridge known as Sand Mountain in the northeastern part of Alabama, was proposed by J. M. Spradlin and associates, but owing to the financial difficulties interposed by the war the plan was never consummated. Now it is reported from Gadsden, Ala., that L. Sparkman, of Little Rock, Ark., and W. M. Wilson of Beaumont, Tex., have been investigating at Boaz, Ala., with the idea of building a railroad from either Boaz or Albertville along the mountain northward to a point opposite Trenton, Ga. It is said that such a line would aid in the development of coal and iron properties.

Four Mountain Counties May Get a Railroad.

At the last session of the General Assembly of North Carolina a commission was appointed to investigate concerning the possibility of building a railroad through Ashe, Watauga, Wilkes and Alleghany counties which are closely grouped in the northwestern corner of the state and thus furnish them with transportation facilities directly connecting with the general railroad system of North Carolina and also connecting with lines leading into Virginia and Tennessee. The members of the commission, chairman of which is Col. Benham Cameron, of Stagville, Durham County, has just made a trip through the country to be traversed by the suggested railroad, and engineers, it is stated, will soon locate a route so that the members of the commission can make a proper report at the next session of the Legislature.

It is contemplated to obtain funds for the construction of the road by selling the State's interest in the North Carolina Railroad and the Atlantic & North Carolina Railroad, about three-quarters of which are owned by the State. The first of these roads is leased to the Southern Railway at an annual rental of \$286,000, (7 per cent on the capital stock) and the line is 224 miles long from Goldsboro to Charlotte. The second road runs from Morehead City to Goldsboro and is leased to the Norfolk Southern Railroad at an annual rate equal to 3 per cent on the stock for the first 20 years from 1904, this being increased to 3½ per cent for the next 10 years, then to 4 per cent and so on.

The other members of the Commission are C. D. Bradham, Newbern, N. C.; Maj. W. C. Heath, Monroe, N. C.; A. J. Draper, Charlotte, N. C.; and T. C. Bowie, Jefferson, N. C.

The counties which it is desired to develop by the construction of a railroad through them are at present so difficult of access that they are sometimes referred to as "the lost provinces."

Order Covering Preferential Shipments.

A new service order issued by the Interstate Commerce Commission and which took effect September 21 covers preferential shipments eastward from the Mississippi River and adds to the list of commodities to be given priority movement mine supplies, medicines, fertilizers, seeds, newsprint paper and petroleum. It also authorizes the use of open top cars for the transportation of road construction and building construction materials, ore and mine supplies after the cars have been unloaded of coal carried in them, but then only when their destination lies in the direction in which the cars are to proceed to be again laden with coal. The order cancels and supersedes Service Order No. 23 and puts all coal shipments in the priority class.

The Commission also directed the railroads to refuse open top cars to any shipper who failed to load them within 24 hours after they were placed and also to refuse them to any consignee who failed to unload such cars within 24 hours.

Service Order No. 24, covering priority movement of cars west of the Mississippi River, was amended to conform to this new order.

A Short Line to Be Improved.

R. E. Carter, of Naylor, Ga., according to a report from Valdosta, Ga., has purchased the interest in the Milltown Air Line Railroad held by W. L. Miller of Milltown, Ga., so that Mr. Carter is now the sole owner of the property, which it is stated he contemplates extending and improving. The road is 10 miles long from Naylor, where it connects with the Atlantic Coast Line, northward to Milltown and it is reported to be doing a good business. Mr. Carter was president and Mr. Miller vice president and general manager.

Houston to Get New Interurban Line.

Houston, Tex., Sept. 22—[Special.]—Acceptance of the franchise offered by the city commission of Houston to the promoters of the proposed new interurban electric railway is said to insure the construction of the line. John Henry Kirby, wealthy lumber manufacturer and oil operator; W. C. Munn, John S. Bonner and Jacob F. Wolters, all of Houston, are the organizers of the Bay Shore Interurban Railway Company, and they have given bond in the sum of \$7500 to the city for the faithful performance of the franchise and contract. Under the franchise, work on the line must begin by March next and cars be in operation by the first of 1924.

The city of Houston will secure a franchise from Harrisburg which will permit the new line to connect with the tracks of the Galveston-Houston Interurban Company at the point where it leaves the tracks of the Municipal Belt Railroad.

The Bay Shore line will use a quarter of mile of the municipal belt track and part of the right of way of the municipal railroad. Under the franchise the city has the right to purchase an interest in the right of way which will be secured by the interurban line beyond the Municipal Belt Railroad so that the railroad can be extended if the city should desire.

New Bridge at Eagle Pass.

Eagle Pass, Texas, Sept. 23—[Special.]—Authority has been obtained from the Mexican and United States governments for the construction of an international railroad bridge across the Rio Grande to connect Eagle Pass and Piedras Negras. The new bridge will replace the one which was destroyed by flood a few months ago. It will be built jointly by the National Railway of Mexico and the Southern Pacific Company, whose tracks connect here. The bridge will cost approximately \$225,000. It will be of heavy steel girder type, on the masonry piers of the old bridge, and it will have nine spans of a total length of 962 feet.

Lumber Line Which May Develop Farming.

Construction of a logging railroad which will also extend facilities as a common carrier is reported proceeding from Kenansville, N. C., the county seat of Duplin County, toward Beulaville, the southern end of the Kinston & Carolina Railroad a subsidiary of the Northfolk Southern system, and it is intended to continue construction to other points, perhaps Chinquapin, Catherine Lake, etc. The section traversed is described as a good trucking region and railroad facilities would give it a direct outlet via Kenansville to Warsaw, N. C., on the Atlantic Coast Line. The track is now approaching Beulaville.

Gasoline Car for Passenger Service.

The Tennessee, Alabama & Georgia Railroad, 90 miles long from Chattanooga, Tenn., to Gadsden, Ala., C. E. James, of Chattanooga, being president, has obtained its first gasoline operated passenger car which is to be used for travel on the line, freight trains being run with steam locomotives. The first trip of the car over the road from Chattanooga to Gadsden and return was, it is stated, made with complete success carrying 30 passengers including President James and Herman Bohr, general manager.

To Fund Capital Expenditures.

The Terminal Railroad Association of St. Louis has been authorized to issue \$2,499,000 of 4 per cent general mortgage bonds to be kept in the company's treasury as representing capital expenditures out of income made between 1910 and 1922.

LUMBER AND BUILDING MATERIALS

Proposed Changes in Export Classification.

New Orleans, La., Sept. 19—[Special.]—Changes proposed in the export classifications of the Southern Pine Association, were discussed by manufacturers engaged in export lumber business, at a special meeting of the Foreign Specifications Sub-Committee of the Association's Grading Committee, held here recently. F. H. Farwell, of Orange, Texas, Chairman of the Sub-Committee, presided.

The proposed revision provides for elimination of some former export grades and the addition of others. It provides for changes in sizes and specifications of certain lumber for export, and gives more explicit designation of defects and specifications in lumber for exports. Those taking part in the discussion were: F. W. Pettibone, of the Edw. Hines Yellow Pine Trustees, Lumberton, Miss., A. W. Ranney, Allger-Sullivan Lumber Co., Century, Fla., L. L. Chipley, Long-Bell Lumber Co., Beaumont, Tex., W. J. Sowers, American Pitch Pine Export Co., New Orleans, Roy F. Morse, Long-Bell Lumber Co., Quitman, Miss., Edw. E. Krauss, Industrial Lumber Co., Elizabeth, La., and other manufacturers and their representatives, who are interested in the exporting of Southern pine. J. E. Rhodes, secretary-manager of the Association and J. E. Jones, chief inspector, were present also.

As a result of the meeting of the sub-committee various changes were suggested in the draft of the revised export specifications and the changes recommended will be submitted to the Grading Committee of the Association for final decision.

Conditions at Southern Pine Mills.

New Orleans, La., Sept. 22—[Special.]—Reports from 134 mills of the Southern Pine Association for the week ended September 15 show a total of 2616 cars ordered, or 53,926,224 feet of lumber. This is an average order per mill of 402,435 feet as compared with 400,524 feet for the preceding week. Shipments were 2707 feet or 55,802,098 feet, an average of 416,434 feet. Production was 80,931,969 feet, an average of 603,970 feet per mill. Shipments for the week were 31.05 per cent below production. Orders were 33.37 per cent below production, and 3.36 per cent below shipments.

The decrease in orders on hand during the week amounted to one half of one per cent.

The summary report for the week is as follows:

	Cars.	Feet.
Orders on hand beginning of week.....	18,045	371,979,630
Orders received during week.....	2,616	53,926,224
Total	20,661	425,905,854
Shipments during week.....	2,707	55,802,098
Orders on hand end of week.....	17,954	370,103,756

Book Describing Farm Buildings of All Kinds.

The Southern Pine Association of New Orleans, is distributing a publication "Farm Buildings," prepared by the Agricultural Experiment Station of Purdue University. The book contains photographs, designs, sketches, floor plans and specifications, with descriptive text of farm buildings that have been constructed. The subject matter embraces almost every type and kind of construction used on the modernly equipped farm. It discusses the best methods of sewage disposal on farms and explains the installation of such systems. It contains designs and detailed drawings of garages, horse and dairy barns, sheep and cattle sheds, granaries, and numerous other buildings required on every large farm.

In addition to the foregoing information, "Farm Buildings" contains rules for estimating the quantity of lumber, concrete, brick and other materials necessary in constructing such buildings.

Increasing Tendency Toward Industrial Construction.

"Although the peak of building activities for the current season has been passed," says S. W. Straus & Co., on the building situation, "construction work is maintaining a volume in accordance with the remarkable record for the year. There is every indication that, barring the usual seasonal interferences, building will continue in unprecedented proportions.

"The season so far has been remarkable not only in point of general construction, but especially in regard to the increase which has been made in homes for the people.

"As the season approaches its final stages, there is a tendency toward more industrial construction and it would not be surprising if a considerable development of this nature were witnessed in the near future. It must be borne in mind that the bulk of the nation's construction facilities this year have been made use of in providing residential structures of all types. As general business develops, however, there is found to be an increased demand for business structures. This does not mean that the demand for new residential types has spent its force but there is an increasing tendency toward a larger proportion of the nation's construction equipment being needed in providing new industrial and commercial buildings."

Southern Pine for Italian Railway Cars.

According to a recent issue of Commerce Reports, the best outlet in Italy at present for American lumber is in the construction of railway cars. Southern pine is preferred for this purpose, according to the report, which says:

"Italy's rolling stock suffered severely during the war, when it was impossible to carry out immediate repairs, and an extensive program of new construction has been worked out by the railway administration. Approximately 2000 passenger cars will have to be replaced, while the plan also provides for the construction of 6000 additional freight cars.

"Southern yellow pine is preferred for framing, siding and ceiling of freight cars, and is also used extensively in the construction of second and third-class passenger cars. There is no indication that Italy intends to abandon the existing type of wooden car for one of all-steel construction. In spite of the high cost, Italian lumber dealers anticipate that the Government will continue to purchase Southern yellow pine for car construction."

Some Increase in North Carolina Pine Orders.

Norfolk, Va., Sept. 23—[Special.]—Orders received by 56 mills of the North Carolina Pine Association for the week ending September 16 total 10,479,529 feet as compared with 10,400,910 feet for the preceding week. The average per mill, however, is considerably less amounting to 187,134 feet. Shipments from 56 mills for the week total 12,207,033 feet an average per mill of 217,983 feet; these figures represent a material increase over the preceding week. Production was 11,816,332 feet or 28 per cent below normal production. Shipments, however, were 3 per cent above production. An increase of 7 per cent is noted in order over the preceding week.

Hardwood Manufacturers Institute Making Progress.

The Hardwood Manufacturers' Institute of Chicago, announces that its membership has increased to 175 or 133 per cent since its organization in June. It now represents approximately one-third of the mill capacity for producing hardwood in the United States.

An engineering department has been created for the purpose of making a complete survey of consumers' requirements on the basis of which inspection rules may be formulated, the better to conserve consumption needs and protect hardwood resources.

TEXTILE

English Spinners Propose to Restrict Output.

Manchester, Eng., Sept., 15—[Special.]—During the last few weeks the general committee of the English Federation of Master Cotton Spinners' Associations has had under consideration a scheme for organizing the trade for the purpose of relieving the severe depression which still exists. On previous occasions when trade has been bad spinners have been recommended to curtail yarn production on an organized scale and the industry has been divided into two sections—mills that use American and other cottons, and mills that produce yarns made from Egyptian cotton. The rules of the Federation provide for compulsory restriction of output when the owners of 80 per cent of the spindles in any particular department are in favor of any proposal put forward by the general committee.

It is now suggested that the industry should be split up into more departments, and that those sections which are not on a paying basis should limit output, so as to prevent the accumulation of stocks. The proposals are already meeting with some criticism, but the officials of the Federation are convinced that the present trade depression will not be relieved unless more drastic action is taken, as undoubtedly at the moment the yarn being produced is in excess of the requirements of the users.

Knitting Trade Directory Published.

The American Directory of the Knitting Trade in the United States and Canada for 1922 has just been issued. This compact and complete volume, which is otherwise known as the "Little Red Book" of the knitting industry, is compiled annually by the "Textile World," 334 Fourth Ave., New York, and the new edition is 84 pages larger than the preceding edition. Several thousand changes have taken place among the knitting mills, etc., during the last year and these changes, together with such new concerns as have begun are all reported in the book. Approximately 200 mills are reported which were not in the 1921 issue. Besides this issue there is a special edition called the "Knit Goods Trade" that is published particularly for the convenience of jobbers, selling agents, sales men, retailers, etc. This is the fortieth edition of the directory.

Activity in Cotton Spinning.

The Department of Commerce announces that there were 36,965,230 cotton spinning spindles in place in the United States on August 31, 1922, of which 32,499,324 were operated at some time during the month, compared with 31,975,269 for July, 31,877,015 for June, 31,653,061 for May, 31,389,256 for April, 31,874,496 for March, 33,797,380 for February, 34,457,509 for January, and 32,930,755 for August, 1921. and 32,930,755 for August, 1921.

The aggregate number of active spindle hours reported for the month was 8,033,002,129. Based on an activity of 27 days for 8.74 hours per day, the average number of spindles operated during August was 34,041,029, or at 92.1 per cent capacity on a single shift basis.

Burlington Mills Complete Organization.

Burlington Knitting Mills, Inc., Burlington, N. C., have completed organization with a capital of \$100,000. The following officers have been elected: R. H. Whitehead, Pres., E. A. Walker, V. P., and C. A. Walker, Sec. and Treas. The company manufactures and converts hosiery. A mill may be erected later.

Commendations, Kicks and Comments

Well Nigh Indispensable.

SAMUEL F. WALL, Thomasville, N. C.—You will find enclosed a check for my subscription. I have been a regular subscriber for the MANUFACTURERS RECORD for eight or ten years and do not see how I can well get along without it.

We Will Try—At Any Rate We Will Keep Hammering.

ROBERT W. KIME, Salem, Va.—Herewith I am sending you my check for \$6.50 to renew my subscription to the RECORD. You are doing a vital work. You are making men think. Can you make them act before it is too late? Your stand on the right to work and seniority is invulnerable. Keep hammering it in.

In Behalf of Humanity.

T. L. KIRKPATRICK, Charlotte, N. C.—I take pleasure in herewith renewing my subscription to the MANUFACTURERS RECORD from August, 1922, to August, 1923.

I further wish to express my appreciation of the great work your paper is doing in behalf of the South, of the Nation and humanity.

Sweet Music.

T. R. CORR, Calumet, Okla.—Your sledge hammer blows against misdirected and lawless unionism are music to the lovers of a well ordered progressive civilization and no doubt will materially aid in protecting the interests of society and in securing the proper adjustment of labor and capital.

"Strike for God and our native land."

Labor Unions' Lawless Methods.

L. B. TYSON, Commonwealth of Kentucky, Department of State Roads and Highways, Frankfort, Rice Station, Ky.—I am very much interested in your articles relative to the railroad strike situation, and believe you are hitting the nail on the head every time you attack the lawless methods of labor unions.

I am enclosing herewith my check for \$6.50 for renewal of subscription to MANUFACTURERS RECORD.

Fighting for Americanism.

WM. H. CASE, St. Petersburg, Fla.—Please find enclosed check for \$6.50 to cover another year's subscription to your indispensable journal. Of the many magazines and papers which we take, the MANUFACTURERS RECORD is the most prized because of its true and uplifting Americanism, and especially the stand taken by Mr. Edmonds on these two strikes. His way of calling a spade spade is very refreshing and inspiring, and it is my earnest hope that he will be spared for many years to come to keep up the fight for old-fashioned, honest Americanism.

Broad Information and Aggressive Spirit.

S. N. WELSH, Elliott, S. C.—I am glad of the opportunity to continue my subscription, as I am thus afforded an opportunity of keeping in close touch with the national and international movements, along economic, industrial, financial and political lines, which could not be had from any other source. I thank God for a publication within the borders of this nation whose editor is big enough to tackle any individual or group, public or private, whose activities or policy are or may prove detrimental to the interest of the great masses of American people. Long may it prosper and continue the splendid work which it is now and has been doing.

Many Do Not Know Why They Strike.

CARL SCHOLZ, Vice-President and General Manager, Raleigh-Wyoming Coal Company, Charleston, W. Va.—I have been a reader of the MANUFACTURERS RECORD for many years and thoroughly endorse your position on the many important subjects which you have so ably handled, particularly on the labor question and on Prohibition. I wish that the sentiments on the front cover of August 31 could be posted in every factory, mine and shop, because no doubt many men are now on a strike who do not know why they are striking, and they may realize their obligation if it is put to them in the clear way you have done in this particular article. Unfortunately, however, the rank and file are unable to read your paper, and unless these sentiments are better circulated the efforts are lost.

\$250,000 School Planned at New Orleans.

New Orleans, La., Sept. 21—[Special.]—A two story and basement school building costing \$250,000 will be erected here. The contractor is O. M. Gwin Construction Company, New Orleans, and the City Architect is E. A. Christy to whom proposals should be addressed.

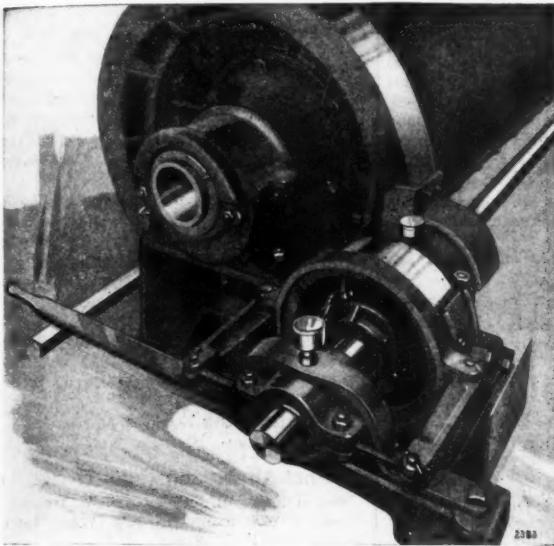
MECHANICAL

Combination Clutch and Brake.

One of the latest developments in the course of the general safety movement that has resulted in many improvements to foundry and shop equipments, is a combination clutch and brake mechanism for tumbling mills as illustrated herewith.

This is a simple device controlled by a hand lever and the manufacturers assert that it is really fool-proof. Shifting the lever towards the mill engages the clutch and starts the mill. To stop the mill the lever is moved in the reverse direction, passing through the neutral position to the braking position.

The advantages of such mechanism as this are readily perceived. For instance a loaded mill can be brought to rest at exactly the right point for unloading and without any loss of time. Holding the mill in place by means of a



COMBINED CLUTCH AND BRAKE MECHANISM.

wooden prop or a bolt thrust into the gearing, as is often done, is always dangerous. With the combination clutch and brake it is impossible for the barrel to turn after the brake is set, even though the barrel is unequally loaded.

This new mechanism, which was patented June 6 last, was devised by the Whiting Corporation, Harvey, Ill., (Harvey is a suburb of Chicago), and was thoroughly tested in their own foundry before it was placed on the market.

Electric Sifter for Sand or Fluids.

An electric sifter, which can be used for sifting sand—molding sand in a foundry, for instance—or by means of a special attachment, for straining and mixing liquids and semi-liquids such as clay-milk, water colors, oils, paints, varnishes, porcelain enamels, chemicals, inks, and rubbers in different factory processes, is shown in the accompanying picture.

This sifter is a compact and wholly self-contained portable machine without any exposed moving parts and the sifting is accomplished by means of a riddle directly connected to an electric motor having an unusually novel rotary eccentric housing, which in turn produces the extremely rapid vibratory motion that enables the sifter to sift, it is stated, a ton of moist molding sand in four minutes time, perfectly cleaned and thoroughly mixed. It is further observed that

two workmen shoveling at top speed could not keep the sifter running at full capacity and that a dozen men sifting by hand could not do nearly as much work. The sifter is of light weight and may be suspended from any handy support and at any height desired. Its greatest vibration is only 5/16-inch from vertical position so it is easy to shovel into.

The strainer attachment for liquids and semi-liquids has



THE SIFTER AS USED FOR FLUIDS.

considerable capacity both above and below the screen, and it is provided with a spout for delivering the strained or mixed fluid into receptacles. Phosphor bronze screens of any mesh can be readily inserted. The top is semi-closed and is shaped with an opening just large enough to admit the material to be strained and also to prevent it from splashing over. On the side of the strainer riddle is a large screw cap to allow quick and easy cleaning of the screen without taking apart.

The fast vibratory motion, it is claimed, produces a better mixture of liquids and accomplishes more perfect straining as grit and dirt are not in any way forced through the screen, the desired portion of the material being only shaken through.

This new device is made by J. D. Wallace & Co., 1401-17 West Jackson Boulevard, Chicago, Ill.

FOREIGN NEEDS

[The MANUFACTURERS RECORD receives many letters from abroad asking for information about American goods and others from manufacturers who wish to represent American houses. Without assuming any responsibility for these concerns, we publish a summary of the foreign letters of inquiry from week to week.]

Dry Goods, Hosiery, Hats, Etc.

CLEARY & COMPANY, LTD., Dublin, Ireland.—Desire to receive offers and samples of all lines likely to be suitable to their large department stores in Dublin, especially of drapery and kindred goods, such as ladies' and gentlemen's hosiery, hats, etc. Letters should be addressed to the London, England office, 8 Southampton Row, W. C. 1.

Hardware and Small Tools.

DR. GIUSEPPE GUIDINI, Casella Postale 97, Studie, Via S. Secondo, 31, Turin, Italy.—I have very extensive connections among the leading ironmongers and the best merchants in Italy, and I should like to represent on commission, plus a small allowance for postage and out-of-pocket expenses, American manufacturers, or better, important distributing agents of well known American manufacturers of hardware and small tools. I think the time is nearing when German goods will not be able to compete in our market, so the American articles will be able to come in again, especially if the rate of exchange will slightly improve and remain fixed, and if sellers will grant certain facilities in quoting for goods delivered here, and payments after receipt of goods.

Construction Department

EXPLANATORY.

The MANUFACTURERS RECORD seeks to verify and obtain additional information regarding all enterprises reported in its Construction Department, by direct daily correspondence. Further facts of news value are published later from telegraph, mail and representatives' reports. We appreciate having our attention called to errors that may occur.

DAILY BULLETIN.

The Daily Bulletin of the MANUFACTURERS RECORD is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$20.00 per year.

Bridges, Culverts and Viaducts.

Fla., Fort Lauderdale—Broward County Comms., H. G. Wheeler, Chrmn., let contracts to Champion Bridge Co., Fort Lauderdale, for 2 steel highway swing draw bridges: No. 1, across Florida Intracoastal canal on line of Pompano Beach roads, near Pompano, Fla.; No. 2, across same waterway on line of Dania road, near Dania, Fla.

Fla., Jacksonville—Duval County Comms., will build creosoted wood bridge. For full details see Mchy. Wanted—Bridge Construction.

Fla., Tavares—State Highway Dept., Tavares, Fla. For full details See Mchy. Wanted—Bridge Construction.

Fla., West Palm Beach—Palm Beach County Comms., Hector Harris, Chrmn., let contracts for following bridges:

285-ft. pile trestle across Lagoon at south end of Lake Boca Ratone; to H. H. Johnstone, at \$6193.

Highway Bridge across Indian River, at Jupiter narrows; to H. C. Daniels, at \$12,638.

Will receive bids to widen Deerfield draw bridge.

Plans constructing 2-way bridge over Boynton canal; both on Dixie Highway.

Mo., Hermitage—State Highway Dept., Jefferson City, Mo., will build reinforced concrete bridge. For full details See Mchy. Wanted—Bridge Construction.

Mo., Kansas City—City Coms., let contract to Kansas Bridge Co., at \$7392 for concrete bridge over creek in Lincoln Park.

Mo., Kennett—Dunklin County, Drainage District No. 36, will build 6 bridges. For full details See Mchy. Wanted—Bridge Construction.

Mo., Mexico—State Highway Dept., Jefferson City, Mo., will build bridge over Chicago & Alton R. R. Lake, on State road from Mexico to Francis; Sta. 12 plus 37; 6 to 8-in. reinforced concrete slab span; 2 mass concrete abutments; 5 concrete piers; Audrain County, State Project, Route 22, Section 9; Harry D. Griffith, Div. Engr., Hannibal, Mo.

Missouri—State Highway Dept., Jefferson City, Mo., plans following bridges:

On Kings Highway, from Portageville to Hayti; Pemiscot County, Federal Aid Project No. 173-A.

Sta. 593 plus 22.5, over Drainage Ditch; 30-ft. I-Beam span; wooden floor; 12 reinforced concrete abutments; 20-ft. roadway.

Sta. 646 plus 10, over Drainage Ditch; 30-ft. I-Beam span; wood floor; 2 reinforced concrete abutments; 20-ft. roadway.

Sta. 683 plus 07, over Drainage Ditch; 30-ft. I-Beam span; wood floor; 2 reinforced concrete abutments; 20-ft. roadway.

On State road from Kennett to Paragould; Dunklin County, Federal Aid Project No. 199.

Sta. 51 plus 10, over Drainage Ditch No. 24; 50-ft. I-Beam span; wood floor; 2 reinforced concrete abutments; 18-ft. roadway.

Sta. 253 plus .06, over Drainage Ditch No. 5; 60-ft. truss span; wood floor; 2 reinforced concrete abutments, skewed; 18-ft. roadway; Frank B. Newman, Div. Engr., Sikeston, Mo.

Mo., Nevada—Vernon and Bates Counties Courts let contract for 260-ft. span bridge across Osage River at Belvoir Ferry, on Springfield to Kansas City Highway.

N. C., Rich Square—Rich Square Road Bd. plans building bridge over Potecasi Creek between Woodland and Murfreesboro; bids invited; plans, from J. G. Parker, George, N. C.

N. C., Washington—Beaufort County Road Coms., will build pile trestle bridge. For full details See Mchy. Wanted—Bridge Construction.

S. C., Spartanburg—For full details See Road and Street Construction.

Tenn., Clarksville—State Highway Dept., Nashville, Tenn., let contract to Nashville Bridge Co., Nashville, Tenn., at \$88,118, for steel super-structure of bridge over Cumberland River near Clarksville; 3 steel spans.

Tenn., Knoxville—E. W. Neal, Mayor, let contract to Republic Creosoting Co., Mobile, Ala., to furnish 5500 sq. yds. creosoted wooden blocks to pave Gay St. bridge.

Tex., Big Spring—Howard County Coms., Court, let contract to J. S. Winslow, to construct concrete bridges and culverts on Puget Sound to Gulf Highway.

Tex., Colorado—Ch. Engr., Bureau of Public Roads, Washington, D. C. approved plans for 2 bridges in Mitchell County; over Lone Wolf and Morgans Creeks; Federal Aid Project No. 275; \$51,292.46; J. C. Hall, County Judge; Frank Du Bose, County Engr.

Tex., Del Rio—Citizens' Bridge Co., Incipd. by Geo. M. Thurmond, D. Newton and E. F. Measels.

Tex., Eagle Pass—Southern Pacific and Mexican National Railways, plan constructing 962-ft. steel bridge over Rio Grande River; \$225,000; Address H. M. Lull, Ch. Engr. Southern Pacific, Eagle Pass.

Tex., Memphis—For full details See Mchy. Wanted—Drainage Work.

Tex., New Braunfels—F. C. Blumberg Mayor, receives bids to construct reinforced concrete highway bridge across Comal River, on San Antonio St.; lowest bidder, Miller, Field Construction Co., Waterloo, Iowa, at \$38,208; Terrell Bartlett, Engrs., Calcasieu Bldg., San Antonio, Tex.

Virginia—State Highway Coms., Richmond, will build 4 reinforced concrete bridges. For full details See Mchy. Wanted—Bridge Construction.

Virginia—State Highway Coms., Richmond, Va., received bids for following bridges: Over Assamoosic Creek, Southampton Coun-

ty; low bidder, to Pittsburgh-Des Moines Steel Co., 804 Curry Bldg., Pittsburgh, Pa., at \$7301.54.

Over Pitch Kettle Creek, Nansemond County; low bidder, Allport Construction Co., at \$8763.59.

Canning and Packing Plants.

Fla., Bartow—Florida Citrus Exchange, capital \$50,000, Incipd. with E. L. Drew, Prest., Eagle Lake; Ed Cornell, Vice-Prest.; establish plant to can culms, drops and oversizes of grapefruit; cost of equipment \$20,000; E. H. Lefevre, Mgr.

Fla., Ft. Pierce—Fort Pierce Fruit Growers Assn., let contract for erection of coloring room of 3 cars capacity, divided into 3 compartments; gas for use in process will be generated and piped into coloring room.

Fla., Stuart—For full details See Land Developments.

Ga., Cordele—J. M. Hunt, R. L. Dekle, interested in establishing canning plant, creamery and cold storage plant.

Ky., Middleboro—New South Packing Co. increased capital to \$20,000.

Fla., Tampa—For full details See Land Developments.

Miss., Biloxi—DeJean Packing Co., Incipd. by Chas. DeJean, Frank Bosarge and others.

N. C., Kingston—Chamber of Commerce interested in establishment of cannery.

Clayworking Plants.

Ark., McRae—Bricks—Reynolds Bros. interested in organization of company to establish brick plant.

Okla., Holdenville—Charles Morris will install brick plant.

Coal Mines and Coke Ovens.

Ga., Atlanta—Big Creek Coal & Iron Co., capital \$16,000, Incipd. by J. L. White, Hugh Howell and S. F. Evans.

Ky., Beaver Dam—Lake-Hetsley Coal Co., Incipd. by Willard Lake, M. W. Hetsley and J. M. Williams.

Ky., Elkhorn—S. J. Callahan & Co., Incipd. by Sylvester and Ross Callahan, Robert Talent.

Ky., Elkhorn—North Todd Coal Co., organized with W. G. Davis, Prest.; D. M. Butler, Mgr.; develop 800 to 900 acres coal land; methyl all purchased. (Lately noted Incipd.)

Ky., Louisville—Kentucky Gas Coal Co., capital \$25,000, Incipd. by L. P. and T. L. Young and J. S. Laurent.

Ky., Melvin—Hall Coal & Land Co. increased capital to \$18,000.

Ky., Miracle—Bridgeway Coal Co., Incipd. by W. S. Bennett, Hulen, Ky.; Dr. B. L. Pursitall, Calvin, Ky., and others.

Ky., Ravenna—Cave Branch Coal Co., capital \$9000, Incipd. by N. B., C. B. and F. J. Ratcliff.

Ky., Whick—Noble Coal & Lumber Co., (lately noted Incipd.) capital \$12,000 organized with Geo. W. Noble, Prest.-Mgr.; Pearl E. Noble, Secy.; developed about 500 acre coal land; install boilers, etc. (See Mchy. Wanted—Boiler Cars (Mining; Rope).)

N. C., Aberdeen—John R. McQueen, Lakeview, N. C., and others acquired Cumnoch Coal Co.; will develop.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

September 28, 1922.

MANUFACTURERS RECORD.

65

Tex., Cataria—S. W. Forrester will develop 30-ft. coal vein, work begun.

Tex., San Antonio—Consumers Coal Co., capital \$250,000, inceptd. by Joe Flory, J. T. Hall and A. L. Moon.

Va., Roanoke—Southern Coal & Iron Corp., increased capital to \$3,000,000.

W. Va., Beckley—Lillybrook Coal Co., increased capital to \$1,100,000.

W. Va., Charleston—Houghton Brothers Co., capital \$10,000, inceptd. by M. J. and J. P. Houghton, Charleston; C. Softley, Nitro, W. Va.

W. Va., Clarksburg—Pool Coal & Coke Co., lately noted inceptd., capital \$50,000, organized with B. M. Davison, Prest., J. H. Lew, W. Va.; Chas. E. Pool, Secy., Clarksburg; lease and operate, also handle coal from New River, Pocahontas and Kanawha Distrs.

W. Va., Grafton—Lebbo Gas Coal Co., capital \$50,000, inceptd. by J. Clyde Lewis, Howard K. Burrell and Nona Hasson.

W. Va., Huntington—Eagle Alma Coal Co., capital \$750,000, inceptd. by E. W. Bowers, W. E. Tomkins and R. C. Taylor.

W. Va., Maysville—Robinson Fuel Co., capital \$25,000, inceptd. by A. W. Bolby, William C. Jamieson and R. F. Lazell, all Morgantown, W. Va.

W. Va., Marshall County—Roman Coal Mining Co., inceptd. by George W. Roman, John Williams and George A. Blackford, all Wheeling, W. Va.

W. Va., Morgantown—Stanley Coal Co., capital \$100,000, inceptd. by C. M. Beam and Stanley Ashby, both Cresson, Md.; John W. Kendall, Myersdale, Pa.

W. Va., Morgantown—Maysville Coal & Coke Co., capital \$50,000, inceptd. by Wilson C. and Guy L. Jamison, Edna J. Hare.

W. Va., Morgantown—Dominion Fuel Corp., capital \$50,000, inceptd. by Fred Tropf, F. L. and P. S. Bowman.

W. Va., Morgantown—Buffalo Collieries Co., capital \$100,000, inceptd. by Ben Green, Samson Finn and Max LeLynn.

Concrete and Cement Plants.

Mo., Kansas City—Concrete Doors, etc.—National Autosafe Co., capital \$100,000, inceptd. by W. C. and S. E. Broughton, W. B. Rose; mfrs. concrete windows, doors, etc.

Va., Goshen—Cement Hollow Blocks—N. Q. Speer Sand Co. contemplate installing mchys. for mfr. of cement hollow blocks. (See Mchys. Wanted—Cement Block Machinery.)

Cotton Compresses and Gins.

Fla., Gainesville—Micanopy Moss Ginning Co., lately noted inceptd. with \$10,000 capital, A. H. Selle, Prest.; will erect two buildings,

30x50 ft.; wooden iron clad; construction by owner; will install gin baler and gas engine, mchys. purchased; output 2 carloads of ginned moss per week.

Miss., Benton—Benton Gin Co., capital \$10,000, inceptd. by S. E. Berry, John Sharp Williams, Jr., and others.

Mo., Gideon—Farmers Gin Assn., capital \$17,000, inceptd. by N. C. Anderson, I. H. Riley, J. W. French.

Okla., Sapulpa—Sapulpa Compress & Warehouse Co., capital \$50,000, inceptd. by A. S. Underwood, I. P. LaRue, of Athens, Tex., J. G. Leonard of Sapulpa.

Cottonseed-Oil Mills.

Miss., Minter City—Minter City Oil Mill, capital \$30,000, inceptd. by M. F. Sturdivant, T. C. Buford and others.

Drainage Systems.

Ala., Decatur—Morgan County Health Board, has plans for drainage of Dry Creek area.

Miss., Carrollton—Potatocawa Creek Drainage Dist. Commiss. let contract at \$62,000 to Hutchinson & Oakford, Peoria, Ill., to construct floodway consisting of parallel levees between which will flow a channel; requiring 400,000 cu. yds. earth excavation; reclaiming about 20,000 acres; sold \$85,000 bonds; Morgan Engineering Co., Engr., 634 Goodwin Institute Bldg., Memphis, Tenn. (Lately noted.)

Electric Light and Power Plants.

Ala., Gordo—City, Dr. J. L. Davis, Mayor, will purchase light plant and construct water works system; voted bonds.

Fla., Apalachicola—For full details See Water Works.

Fla., Lakeland—For full details See Land Developments.

Fla., West Palm Beach—For full details See Water Works.

Fla., Mansfield—Mansfield Light & Power Co. increased capital to \$50,000.

Mo., Cape Girardeau—Missouri Public Utilities Co., E. A. Hart, Mgr. reported to construct general electric system, ultimately to include supplying every town in Southeast Missouri with power from central plant at Poplar Bluff and Cape Girardeau; first lines to be built will connect system to Poplar Bluff with local unit, which will be from Poplar Bluff to Essex to Morehouse; will enlarge both Cape Girardeau and Poplar Bluff plants; towns to be supplied with electricity from central points are Cape Girardeau, Fornfelt, East Prairie, Morley, Blodgett, Oran, Chaffee, Bertrand, Dudley, Essex, Morehouse, Poplar Bluff and Fisk.

Mo., Milan—For full details See Water Works.

N. C., Winston-Salem—For full details See Land Developments.

Okla., Boswell—City let franchise to Hugo Ice & Light Co., Hugo to construct power line from Hugo to Boswell and Soper; cost \$50,000.

Okla., Collinsville—City contemplates extending white way. Address The Mayor.

Okla., Heavener—Oklahoma Gas & Electric Co., Oklahoma City, reported to purchase municipal lighting plant.

Okla., Oilton—Oklahoma Gas & Electric Co., Oklahoma City, will improve recently acquired plant.

Tex., Dallas—For full details see Land Developments.

Tex., El Paso—Horace B. Stevens will install electric lighting plant in Mills Bldg.; cost \$25,000.

Tex., Tulsa—City will improve electric light plant; votes Oct. 12 on \$25,000 bonds. Address The Mayor.

Va., Alexandria—City will construct white way on portions of various streets; Alexandria Light & Power Co. in charge.

Va., Radford—For full details see Water Works.

Flour, Feed and Meal Mills.

Mo., Buffalo—James A. Bonner let contract for erection of 10,000 bu. elevator, glazed tile, consisting of 2 tanks of 4 bins each; cost \$6500 Barnard & Leas, Moline, Ill. Contrs. for mchys. (Lately noted.)

Va., Suffolk—Virginia Milling Corp., capital \$50,000, inceptd. with J. H. Cofer, Prest., Norfolk; J. W. Simmons, Secy., Suffolk.

Foundry and Machine Plants.

Ala., Anniston—Castings—Kilby Pipe Co., inceptd. by E. M. Kilby, C. A. Hamilton and Whitfield Clark; mfrs. pipe fittings and castings.

Ala., East Birmingham—Pipe—McWane Cast Iron Pipe Co., J. R. McWane, Prest. let following contracts: To Ingalls Iron Works for first unit of plant, 108x340-ft., requiring about 300 tons structural steel; daily capacity 8000 ft. pipe; to Adalex Construction Co. for grading and foundation work. (Lately noted to erect plant on 30 acre site.)

Gas and Oil Enterprises.

Fla., Bartow—Polk County Oil Co., capital \$100,000, inceptd. with Geo. R. Johnston, Prest.; J. D. Clark, V. P.; J. Forrest Caldwell, Secy. Treas.

Fla., Lakeland—For full details See Land Developments.

Ky., Mt. Sterling—Rose Petroleum Corp., inceptd. by Robt. H. Winn, T. B. Rodman, Mary G. Chiles.

OPPORTUNITIES FOR NEW BUSINESS

THROUGH THE

DAILY BULLETIN

Manufacturers or Machinery and Equipment, Dealers in Railroad and Contractors' Supplies, as well as Architects, Contractors and Builders, find it very profitable to follow up the advance news furnished through our **DAILY BULLETIN** EVERY BUSINESS DAY IN THE YEAR. It is an authoritative, prompt source of information concerning every industrial and railroad undertaking of any consequence, and likewise all important building operations and municipal improvements in the whole South. The opportunity of getting in correspondence with firms that are in the market is afforded by a daily perusal of its columns.

MANUFACTURERS RECORD

BALTIMORE, MD.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Ky., Mt. Sterling—Relief Oil Co., incptd. by Robt. H. Winn, T. B. Rodman, Mary G. Chiles.

Ky., Scottsville—Allen County Oil Co., incptd. by Guy S. Amos, E. J. Lee Rust, of Birmingham, Ala., C. W. Hill and B. A. Hale, of Scottsville.

Md., Baltimore—Hanson Oil Products Co., 2425 Greenmount Ave., capital \$15,000, incorporated by Charles Albert Hanson, Jr., Charles Wm. Adams, Alan Douglas Stabler.

Okla., Ardmore—Masel Oil Co., capital \$200,000, incptd. by Homer Hinkle, David Daube, J. J. Chandler.

Okla., Blackwell—Tower Gasoline Co., of Oklahoma City, L. Z. Harrison, Gen. Mgr. contemplates constructing refinery, also install additional absorption plants.

Okla., Muskogee—Sunflower Petroleum Co., capital \$150,000, incptd. by W. P. Miller, H. C. Burditt, J. F. Taylor.

Okla., Oklahoma City—North American Oil Co., reported formed by merger of North American Oil & Refining Corp., Noco Petroleum Co., Noco Production Co. of Oklahoma City, Noco Mexican Oil Co., New York, Black Petroleum Corp. of Okmulgee, Lesh Refining Corp., Lesh Oil Products Co. of Arkansas City, Kans., Noco Pipe Line and Petroleum Transit Co. of New York; capital \$35,000,000; C. F. Colcord, Prest.; J. E. McDonnell, V.-P., Des Moines, Ia.; C. B. McCluskey, Secy.-Treas., New York; has 40,000 acres, 4500 now producing; has 3 refineries, contemplate increased operations.

Okla., Yeager—Town voted bonds for construction of gas pipe line system. Address The Mayor.

Tex., Beaumont—Arkansas, Louisiana & Texas Development Co. is proceeding with construction of about 22-mi. of 20-in. natural gas pipe line from wells in Monroe, La. fields to Beaumont and Port Arthur; ultimately planned to extend pipe line to Houston, 80 mi. west of Beaumont; W. L. McCloy, Engr., Pittsburgh, Pa. (Lately noted.)

Tex., Beaumont—High Island Petroleum Co., capital \$25,000, incptd. by W. Carroll Keith, W. D. Gordon, A. E. Borsum.

Tex., Breckenridge—Geo. S. Horney & Co., capital \$15,000, incptd. by Geo. S. Horney, Thomas Gleason, F. W. Suggett.

Tex., Cross Plains—Redwood Oil & Refining Co., capital \$250,000, incptd. by O. T. Pledger, J. H. Montgomery, R. B. Forbes.

Tex., Fort Worth—National Gasoline Co., capital \$200,000, incptd. by W. R. Spann, T. S. Byrne, E. H. Ratcliff.

Tex., Houston—Kosse-Gulf Coast Oil Co., capital \$500,000, incptd. by E. A. Meyer, Glenn Nichols, W. J. Johnson.

Tex., Hughes Springs—Hughes Springs Oil & Gas Co., lately noted incptd. with \$75,000 capital organized with J. T. Coney, Prest.; L. B. Renard, Secy., R. M. Kasling, Treas.

Tex., Mexia—Sinclair Pipe Line Co. will extend facilities from present terminus of line at Mexia to refinery on Houston Ship Channel at tide water below Houston, distance of 165 mi., will use 8-in. and 10-in. loops; will construct six 55,000 bbl. tanks, daily capacity 225,000 bbl., construct three pump stations, storage farms, etc.; work probably complete within year.

Tex., Orange—Alford & Hill, capital \$9000, incptd. by A. C. Alford, R. M. Hill.

Tex., Port Arthur—Gulf Refining Co., Geo. H. Tabar, V. P., Pittsburgh, Pa., reported to enlarge refinery.

Tex., Prairie Lea—Prairie Lea Production Co., capital \$100,000; incptd. by A. J. McLean, C. C. Dauchey and E. W. Smith.

W. Va., Bluefield—Martz Operating Co., capital \$50,000, incptd. by J. W. Stupalsky, J. H. Stupalsky, Harry Grief.

W. Va., Charleston—Brilliant Oil & Gas Co., capital \$100,000, incptd. by O. H. Parkins, L. T. Hardman, E. E. Harlew.

Ice and Cold-Storage Plants.

Ala., Birmingham—Centennial Ice & Coal Co. contemplates installing 50 ton raw water ice plant.

Ark., Gurdon—Gurdon Ice Co., reported to enlarge plant.

Fla., Chipley—C. E. Pleas contemplates installing small refrigeration plant.

Fla., Palmetto—Palmetto Ice Co. increased plants capacity, equipment purchased; probably build pre-cooling plant.

Ga., Cordele—For full details See Canning and Packing.

Ga., Lyons—U. P. C. Smith will establish ice, ice cream and cold storage plant.

Miss., McComb—McComb Ice Factory, V. G. Connor, Supt., will construct 3500-ton ice storage and commercial cold storage plant. (See Mchly. Wanted—Boiler (Water Tube.)

Miss., McCool—Geo. R. Edwards, plans establishing 20 ton raw water ice plant.

Va., Appalachia—Norton Ice & Cold Storage Co. reported to erect new plant.

Va., Richmond—Merchants Cold Storage & Ice Mfg. Co., Nimmo Old, Jr., Mgr., 208 S. 6th St. will remodel plant, fireproof construction; install new boilers, refrigerating machine and ice tanks, all purchased. (Improvements lately noted.)

W. Va., Clarksburg—Clarksburg Ice & Storage Co. increased capital to \$200,000.

Iron and Steel Plants.

Tex., Houston—Armstrong Steel Co., Fort Worth, Tex. reported to expend \$2,000,000 on establishing a plant to manuf. steel products from a combination of pig iron and scrap iron by an open hearth process, annual capacity 60,000 tons; John Henry Kirby and others Directors.

Irrigation Systems.

Tex., Uvalde—J. I. McGregor, Agricultural Agent for Southern Pacific lines, Houston, Tex., interested in irrigation project in Uvalde County; plans call for 600 ft. long and 140 ft. high concrete dam between east and west bluff of Frio river, construct earthen dyke across lateral draw, that will impound water from 375 sq. mi. forming lake containing 130,000 acre ft., sufficient to irrigate from 35,000 to 40,000 acres annually; estimated cost \$1,750,000; contemplate creating drainage district.

Land Development.

Ala., Florence—Florence Exchange Club interested in development of athletic field; cost \$5000.

Ala., Montgomery—Fairview Development Co., capital \$5000, incptd. by E. T. Davis, George Hails, Jr., W. H. Vaughn.

Ala., Selma—City will develop "New Liberia" as cemetery annex. Address The Mayor.

Fla., Apopka—Walmac Co., capital \$25,000, incptd. with W. W. Walters, Prest.; C. N. McFarland, V.-P.; E. W. McFadden, Secy.

Fla., Brownsville—Sunshine Groves Co., Inc., R. F. Saxon, Jr., Prest., J. H. Switzer, Vice-Prest.; E. R. Jones, Secy.-Treas., will expend about \$90,000 in developing 200 acres

for citrus groves, 100 already under cultivation; construction by owners. (Lately noted.)

Fla., Jacksonville—East Coast Trading Corp., capital \$25,000, incptd. with F. O. Spain, Prest.; Telfair Knight, V.-P.; C. I. Alexander, Secy.-Treas.

Fla., Lakeland—J. T. Horney of Asaberle, N. C., will develop about 80 acres, Horney Heights, for residential park; construct 5 mi. of asphalt streets, install water, sewer, gas, sidewalks, electric light lines, telephone lines, etc.; will expend about \$250,000 in improvements.

Fla., Pahokee—The Howard Co., capital \$10,000, incptd. with B. A. Howard, Prest.; Homer Vivian, V.-P.; L. A. Howard, Secy.

Fla., St. Petersburg—Pasadena Gardens, capital \$750,000, incptd. with J. M. Light, Prest.; Chas. J. Maurer, V.-P.; James R. Bussey, Secy.

Fla., Stuart—Florida Growers, Inc., consolidation of Florida Growers Guaranty Finance Co. and Phoenix Fruit Co., and St. Lucie Products Co., capital \$400,000, incptd. with Carroll Dunscombe, Prest.; S. W. Sparks, Vice-Prest.; J. A. Aigler, Secy.; plans additional development; have 520 acres under cultivation in pineapples, contemplate increasing to 1650 acres; will expend \$100,000; also plans constructing packing plant. (See Mchly. Wanted—Canners' Supplies, etc.; Crate and Box Material.)

Fla., Tampa—O. H. Lothes Co., capital \$25,000, incptd. with O. H. Lothes, Prest.; W. L. Pencke, Secy.

Fla., Tampa—Lake Garfield Nurseries, V. L. Brown, Vice-Prest., will develop 1,200-acre grove in oranges, tangerines, Valencia and Marsh seedless grapefruit, in five and ten-acre tracts; will also construct packing house.

Fla., West Palm Beach—Kennethworth Development Co., capital \$100,000, incptd. with J. B. McGinley, Prest.; Raymond Corwin, V.-P.; E. T. Pearson, Secy.; develop 120 acres for subdivision.

La., Baton Rouge—City interested in development of park. Address The Mayor.

Md., Baltimore—Mindel Realty Co., 451 Equitable Bldg., capital \$10,000, incptd. by Israel Kurland, Sidney Mindel, Joseph Meyerhoff.

Md., Baltimore—Blythewood Co., Garrett Bldg., capital \$250,000, incptd. by John W. Garrett, L. Warrington Cottman, J. Rulon Miller, Jr.

Md., Rockville—Rockville Development Co., capital \$25,000, organized by Robt. G. Hilton, Prest.; Wm. E. Vliet, V. P.; P. Ray Sunders, Secy.

Mo., St. Louis—Arrow Realty & Investment Co., 4045 Forest Park Blvd., lately noted incptd. with \$10,000 capital, organized with Geo. F. Langenberg, Prest.; G. O. Langenberg, Vice-Prest.; will develop 20 acres for industrial and residential site.

Mo., St. Louis—Lerc Building Co., capital \$15,000, incptd. by C. A. Schmidt, W. J. O'Brien, N. A. Schmidt.

N. C., Waynesville—Waynesville Country Club will construct 18-hole golf course, construct tennis courts, swimming pool, clubhouse, etc.

N. C., Winston-Salem—Westover Park, Inc., incptd. with E. V. Ferrell, Prest.; G. Miller Hinshaw, V. P.; Thos. Wilson, Secy.-Treas.; will develop 300 acres; construct grand lithic sidewalks, curbs and gutters, electric lights, water, sewers, etc.; opens construction bids in about 30 days; G. F. Hinshaw, Engt. in charge. (Lately noted under Atlantic Coast Realty Co.)

Okl., Chickasha—City, P. C. Stacy, Chrm.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

September 28, 1922.

MANUFACTURERS RECORD.

Park Board, will improve Shannon Springs Park; will vote on \$55,000 bonds.

Okl., Tulsa—C. E. Martin will develop 320 acres into 10-acre tracts for poultry and fruit farming.

S. C., Charleston—Glenroy Corp., incptd. with W. R. Greer, Prest.-Treas.; J. H. Armstrong, Secy.

S. C., Greenville—A. M. Muser and L. V. Sturkey of Clemson College purchased 84 acres and will develop for peach orchard.

S. C., Spartanburg—City, R. H. Rutherford, Supt. of Parks, interested in development of park on Cedar Springs Road.

Tenn., Knoxville—Dooley-Gillespie Co., capital \$250,000, incptd. by Chas. L. Dooley, Chas. A. Gillespie, Samuel V. Carter.

Tex., Dallas—Dallas Investment Co., purchased 32 acres west of Preston Road, will expend about \$75,000 in development for residential site, will construct streets, install sewers, lights, etc.

Tex., Ft. Worth—Clover Land Co., 611 1/2 Main St., reorganized with S. C. Clover, Prest.; C. R. Backus, Vice-Prest.; Fred M. Hammond, Secy.

Tex., San Juan—Valley Citrus Nursery Co., lately noted incptd. with \$25,000 capital, Banks L. Miller, Prest.-Mgr., will develop 5000 acres for citrus nursery.

Va., Roanoke—Frances Farm Agency, Inc., lately noted chartered with \$5000 capital, organized with Henry L. Francis, Prest.; has 3000 acres; will develop for sub-division; opens bids for mchly. in about 6 months.

Lumber Manufacturing.

Fla., Jacksonville—H. J. Rembert Lumber Co., capital \$10,000, incptd. with H. J. Rembert, Prest.-Treas.; B. B. Shields, Secy.

Fla., Plant City—Harper Lumber & Mfg. Co., acquired established plant of E. T. Roux & Son Lumber Co.; will operate.

Fla., New Smyrna—Volusia Cypress Co., reported to erect saw mill, planing and crate mill; approx. cost \$100,000.

Fla., St. Petersburg—Altman-Russell Lumber Co., capital \$15,000, incptd. with Chas. S. Altman, Prest.; Alfred A. Russell, Secy.-Treas.

Fla., Tampa—Harper Lumber & Mfg. Co., capital \$300,000, incptd. with D. E. Harper, Prest.; H. C. Harper, Secy.-Treas.

Ga., Tifton—Postall Cookum & Co. acquired planing mills, dry kilns and other equipment of H. H. Tift estate; will operate; later will probably install additional mchly.

La., Luling—Lutcher & Moore Lumber Co., Orange, Tex. let contract to J. M. Pearson to erect a battery of dry kilns, install additional mchly., all purchased.

Miss., Cary—Bellgrade Lumber Co., T. M. Cathey, Prest. acquired 7000 acres timber increasing land holdings to 37,000 acres; improvements to plant begun.

Mo., Trenton—Smith Planing Mill. Perry Smith, Propr. will build addition to plant and install mchly.

Tenn., Knoxville—Appalachian Land & Lumber Co., capital \$50,000, incptd. by Union J. Chambers, John T. Walker and Henry K. Mooney.

Va., Painter—A. T. Hickman Lumber Co., capital \$50,000, incptd. with William B. Mapp, Prest., Mappsburg, Va.; Algernon T. Hickman, Secy. Painter.

W. Va., West Hamlin—Lincoln Lumber & Supply Co., capital \$50,000, incptd. by B. S. Browning and M. B. Vinson, both West Hamlin; R. H. Stewart, Milton, W. Va.

Metal-Working Plants.

Ky., Bowling Green—Metallic Caskets—Metallic Casket Co., capital \$25,000, incptd. by J. E. Tyler, John and E. H. Davis.

Ky., Louisville—Apex Tool & Stamping Corp., chartered by Charles K. Leslie, William H. Lippold and L. D. Greene.

Md., Baltimore—Electrical Supplies—Wolfe & Mann Mfg. Co., 320 S. Hanover St. capital \$10,000, incptd. by Eugene L. Wolfe, William J. Mann, Jr. and Samuel W. Wiley.

Tenn., Memphis—Metal Doors, etc.—Burglar Proof Shutter Corp., capital \$100,000; incptd. by P. J. Quigley, Ed. L. Lanning and George H. Poole.

Tex., Wichita Falls—Wichita Fender Brace Co., capital \$10,000, incptd. by J. C. Muttinger, W. H. Gaskin and O. D. Taylor.

W. Va., Amigo—Malcom Supply Co., capital \$10,000, incptd. by F. G. and J. A. Wood, Amigo; J. W. Malcom, Beckley, W. Va.

W. Va., Huntington—Safety Appliance Co. increased capital to \$10,000.

Mining.

Ala., Birmingham—Iron—Damascus Iron Co., incptd. by Crawford Johnson, John R. Pill and George E. Harris; will develop about 2000 acre iron ore tract, probably build railroad, etc.

Fla., Pensacola—Gravel—Pensacola Gravel Co., incptd. with J. Y. Baileys, Prest.; R. Leon Jones, Secy.

Ky., Spiekard—Rock, etc.—Gose & Austin Mining Co., incptd. by D. G. and Cody Gose, L. A. Austin.

Ola., Oklahoma City—Mineral Bank Mining Co., capital \$1,000,000, incptd. by G. S. Pettit and A. Stein, both Oklahoma City; E. R. Henney, Phoenix, Ariz.

Tenn., Chattanooga—Abrasive Co., 30 Church St., New York, reported to establish reduction plant, shipping ore from the Adairsville, Ga. mines; Henry Mace Payne, Consit. Engr.

Tex., Victoria—Sand and Gravel—Gaudalupe River Navigation Co. will erect plant on new site, daily capacity 20 cars gravel and sand; removing plant from present site.

W. Va., Millville—Standard Lime & Stone Co. reported to have acquired additional acreage; will develop.

Miscellaneous Construction.

Fla., Fort Pierce—Inlet—St. Lucie and Brevard County Comms., reported to construct inlet from Atlantic Ocean to Indian river; have \$100,000 available.

Miss., Greenville—Dike—For full details see Mchly. Wanted—Dike Construction.

Miss., Yazoo City—Levee—D. A. Swayze and others interested in constructing about 2 mi. levee to protect Lintonia addition; Extra Smith and T. A. Cary, making preliminary surveys.

Mo., Joplin—Swimming Pool—Langston Moore, Secy., Park Board will construct swimming pool in Cunningham and Mineral parks; invite bids; Sam Ashcraft, City Engr. (Late noted.)

N. C., Raleigh—Memorial Gates—Pullen Memorial Assn. in co-operation with North Carolina Federation of Home Bureaus will erect \$10,000 memorial gate N. C. State College. Address Mrs. W. C. Riddick.

Tex., Houston—Port Improvements—Port Comsm., Harris County Courthouse, contemplates doubling ship loading and unloading capacity at the turning basin; estimated cost \$3,000,000; Eric Davis, Port Engr.

Tex., Paris—Chartnel—Lamar County Levee Improvement District No. 1 let contract

to Howard Kenyon Dredging Co., Houston, Tex., to cut 9 mi. channel and straighten part of Sulphur River; reclaiming about 8000 acres.

Va., Norfolk—Dredging—U. S. Engr. Office, Room 15, Customhouse, opened bids for dredging in Pagan River; 119,512 cu. yds. place measurement; bidders are: Atlantic, Gulf & Pacific Co., 21 Park Row, New York City at \$44,697.49; W. H. French Dredging & Wrecking Co., Norfolk, Va. at \$38,841.40; and The Arundel Corp., Pier 2, Pratt St., Baltimore, Md.

Miscellaneous Enterprises.

Ala., Tuscaloosa—Fire Fighting Equipment—City will purchase additional fire fighting equipment, build fire station, etc.; contemplate bond issue. Address The Mayor.

D. C., Washington—David J. Nevin Publishing Co., capital \$25,000, incptd. by David J. and K. H. Nevin, Agnes L. Fitzgerald.

D. C., Washington—Brown & Gray Cab Co., capital \$250,000, incptd. by Leon Brill, Jr. and Earl I. Klein, both Washington; Jacob Dashew, 417 W. Baltimore St., Baltimore, Md.

Fla., Orlando—Emerick Cafeteria Co., capital \$25,000 incptd. with S. K. Gunn, Prest.; C. R. Emerick, Secy.-Treas.

Ga., Athens—Abattoir—L. O. Price, interested in establishment of abattoir.

Ky., Frankfort—Publishing—Kentucky School News Co., capital \$18,000, incptd. by S. S. and Brenda D. Elam, O. S. Deming.

Ky., Lexington—Virginia Avenue Tobacco Warehouse Co., capital \$30,000, incptd. by R. L. Stivers, T. P. Prather and William Riley.

Ky., Milton—Kentucky & Indiana Ferry Co., capital \$25,000, incptd. by D. T. and Harry Voires, John Niehouse.

La., Baton Rouge—Yellow Cab Co., incptd. with A. Grouchy, Jr., Prest.; Ivy Morris, Secy.

Miss., Vicksburg—Yellow Taxi Co., incptd. by Frank and Joseph Farrish and others.

Mo., St. Louis—Motion Pictures—Mid West Productions, Inc., capital \$150,000; incptd. by A. A. Fineshriber, N. C. Herbert and Leon de LaMothe.

Mo., Springfield—Painting Supplies—M. K. & T. Paint Co., incptd. by R. P. and Gertrude Dickerson, F. E. Gaston.

N. C., Charlotte—Motion Pictures—Travers Vale Production, Inc., Travers Vale, Prest., New York, contemplates establishing plant.

Ola., Chickasha—Thomas Lyons Broom Corn Co., capital \$20,000, incptd. by George J. Lins, Chickasha; C. F. Wheeler, Oklahoma City, Okla.

Ola., Oklahoma City—Squires-Kirkpatrick Publishing Co., capital \$10,000, incptd. by Scott P. Squires, R. R. Kirkpatrick and William H. Davis.

Ola., Tulsa—Wallace Construction Co., capital \$10,000, incptd. by B. Frank Youngs, T. M. and Lillian Hollyman.

S. C., Charleston—Steamship Line—Capt. J. H. Haynesworth, Savannah, Ga. interested in establishing inland steamship service between Charleston and Beaufort.

Tex., Dallas—Stationery—Richmond Co., \$30,000, incptd. by Ira D. Richmond, O. L. Sieber and O. M. Lowrey.

Tex., Fort Worth—American Motion Picture Co., incptd. by F. M. Elliott, W. S. Stegall and F. B. Kirby.

Tex., Houston—Houston Builders, Inc., chartered by E. A. Dudley, V. R. Cooley, and Lemuel Ramel.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Tex., Wichita Falls—Texas-Oklahoma Fair Assn., capital \$100,000, inceptd. by T. B. Noble, W. E. Norton and C. H. Verschoyle.

Va., Danville—Powell's Cleaning Works, capital \$25,000, inceptd. with J. Leo Brower, Jr., Prest.; N. L. Holt, Secy.

Va., Danville—Reliance Storage & Electric Co., capital \$50,000, inceptd. with E. F. Magee, Prest.; W. B. Griffith, Secy.

W. Va., Athens—Mercer County Co-operative Agricultural & Horticultural Assn., chartered by S. R. Halroyd, Athens; F. A. Sarver, Bluefield, W. Va. and R. L. Brown, Princeton, W. Va.

W. Va., Bluefield—Amusement Company, organized with C. H. Harmon, Prest.; E. P. J. Staunton and Thomas F. Downing, Jr., B. Hess, Gen. Mgr.; capital \$150,000; leased property, will erect amusement park devices including merry-go-round, roller-coaster, 60x90-ft. dance hall, and 100x200-ft. concrete bathing pool, etc.

W. Va., Clarksburg—Model Plumbing & Heating Co., inceptd. by W. O. Bank, J. I. Webster and F. O. Sutton.

W. Va., Lundale—Transportation—Blue Streak Line, Inc., chartered by W. A. Butler.

Miscellaneous Factories.

Ala., Anniston—Nixon Hide Co., capital \$10,000, inceptd. by J. E., C. W. and Mrs. Hattie Nixon.

Ala., Montgomery—Litewear Mfg. Co., with B. W. Scheuer, Prest., 212 S. Lawrence St.; mfre. underwear.

D. C., Washington—Troiana Rubber Heel Mfg. Co., capital \$100,000, inceptd. by Antonio Troiana, E. G. Peary, Frank Gerau, Jr.

Fla., Jacksonville—Elixir Mineral Water Co., capital \$10,000, inceptd. with E. I. Custer, Prest.; Edward Weber, V.-P.; Chas. F. Burrows, Secy.-Treas.

Fla., Miami—Advertising Novelties—National Enterprise, capital \$5000, inceptd. with Robert Gatlin, Prest.; Robt. R. Reimert, Jr., V.-P. and Treas.

Fla., Ocala—Lloyd Tobacco Co., capital \$100,000, inceptd. with M. W. Lloyd, Prest.; M. N. Lloyd, V.-P.; A. E. Sexton, Secy.-Treas.

Fla., Palatka—Court Square Drug Co., capital \$150,000, inceptd. with Basil C. Pearce, Prest.; Wm. N. Gross, V.-P.; Norman S. Riles, Secy.

Fla., Punta Gorda—Southern Tanning & Mfg. Co., capital \$50,000, inceptd. with J. T. Swinney, Prest.; T. C. Crosland, Vice-Prest.; W. W. Knight, Secy.-Treas.

Fla., Tampa—Lady Diana Cigar Co., capital \$50,000, inceptd. with Max Smith, Prest.; Ida Smith, V.-P.; Joseph Leibowitz, Secy.-Treas.

Fla., Tampa—Florida Frozen Products Co., Leb Sponsler, Secy., 612 Citizens Bank Bldg., will increase capital to \$75,000.

Ga., Atlanta—Roofing—Vulcanite Roofing Co., subsidiary of Beaver Products Co., W. F. Michaux, Mgr.; contemplating establishing branch plant.

Ga., Cordele—Creamery—For full details See Canning and Packing Plants.

Ga., Guyton—Bakery—Lewis Morgan will establish bakery.

Ky., Covington—Jewelry—T. Knoebber Co., capital \$40,000, inceptd. by Theodore A. Knoebber, Edward T. Herricks, both Covington; Edward H. Wubbolding, Cincinnati, O.

Ky., Middlesboro—Middlesboro Pharmacy, capital \$5000, inceptd. by S. A. Gastineau, Thomas C. Davis both of Middlesboro, Lucile G. Wilson Lexington, Ky.

Ky., Richmond—Independent Nitro Co.,

inceptd. by O. Willis Kennedy, C. F. Chenault, S. W. Norman.

La., Monroe—Texas-Louisiana Producing & Carbon Co., capital \$250,000, inceptd. with R. R. Beaman, Prest., Monroe; Travis Oliver, V.-P., Monroe; C. H. Reid, Secy.-Treas, Houston, Texas.

Md., Baltimore—Bond Clothing Co., inceptd. by Wm. H. Hill, James A. Curtis, Robt. C. Hall.

Md., Baltimore—Clothing—J. Mayer & Co., 107 N. Eutaw St., capital \$25,000, inceptd. by Jacob Mayer, Morton E. Fleoscher, Louisa Mayer.

Md., Baltimore—Baltimore Water Paint Co., 942 Madison Ave., acquired buildings, will remodel for paint factory and install mech.

Miss., Vicksburg—Vicksburg Battery Co., capital \$10,000, inceptd. by J. C. Hamilton, Mrs. D. E. Feltus and others.

Mo., St. Louis—Brockman Baking Co., capital \$5000, inceptd. by R. W. Brockman, Rudolph Felsch, G. E. Popkess.

N. C., High Point—National Cigar Co., capital \$100,000, inceptd. by C. C. Edwards, L. R. Matthews, Walter Royal.

N. C., Salisbury—Southern Footwear Mfg. Co., A. J. Linville, Supt., will install additional machinery.

S. C., Charleston—Charleston Palmetto Drug Co., capital \$10,000, inceptd. with Dr. J. Orrin Lea, Prest.; Sidney Barshay, V.-P.; Manuel Barshay, Secy.-Treas.

Tenn., Chattanooga—Monarch Storage Battery Co., capital \$15,000, inceptd. by Dayton Benham, J. L. Coulter, J. C. Womble.

Tenn., Chattanooga—Art Materials—Success Portrait Co., capital \$350,000, inceptd. by J. M. McConnell, T. C. Tussey, O. A. Brammer.

Tenn., Memphis—Mortarless Stone & Brick Co., capital \$25,000, inceptd. by John Walter Dawkins, C. B. King, G. W. Spearman.

Tex., El Paso—Candy—Cactus Crystal Products Co., capital \$15,000, inceptd. by M. M. Womble, W. F. Parks, Phillip Dimifrapoulos; established plant at Lurange and Second Sts.

Tex., Houston—Popular Garment Co., capital \$10,000, inceptd. by H. Berwald, L. H. Berwald.

Tex., San Marcos—Wills Storage Battery Co., capital \$12,000, inceptd. by M. B. Wills, M. Rector, E. C. Wills.

Tex., Waxahachie—Curlin Drug Co., capital \$42,000, inceptd. by J. E. Hamilton, O. N. Inabit, M. C. Curlin.

Va., Fredericksburg—National Tanning Extract Corp., acquired building of Wilson Dye Works.

Va., Roanoke—Roanoke Fruit Product Co., O. L. Nash, Mgr.; establish plant to mfre. vinegar, approx. 5000 bbls per season.

W. Va., Lumberport—Farmers Dairy Product Co., capital \$15,000, inceptd. by Francis M. Robinson, L. S. Harbert, S. C. McCarthy.

W. Va., Morgantown—Radio Appliance Co., increased capital to \$50,000.

W. Va., Nitro—Nitro Penel Co., J. D. Hulshizer, Secy.-Treas., will rebuild plant burned at loss of \$100,000.

W. Va., Parkersburg—Imperial Ice Cream Co. will increase capital to \$3,500,000.

Motor Cars, Garages, Tires, Etc.

Ala., Clevendale—Futch-Flowers Motor Co., capital \$20,000, inceptd. by H. C. Futch, J. D. and Mary D. Flowers.

Shorter will erect automobile filling station Shorter will erect automobile filling station cor. Broad and Randolph Sts.

D. C., Washington—Garage—Corby Baking Co., 2301 Georgia Ave., N. W., will erect 2-story, 76x100-ft. garage and repair building for company's trucks and cars; install equipment; P. M. Anderson, Constl. Engr.

Fla., Daytona—Garages—Foreign & Domestic Realty Co., Julian A. Arroyo, Prest., will erect brick garage building, containing 32 automobile stalls, cost \$10,000; construction by owner.

Fla., Fort Pierce—Supply Station—Texas Oil Co., E. H. Brawder, representative, Jacksonville, Fla., purchased 77½ x 600 ft. site; will erect supply station; Elmer Robb, Engr.

Fla., Jacksonville—Automobile Accessories—P. H. Palmer Co., capital \$50,000, inceptd. with P. H. Palmer, Prest.; F. C. Dey, Secy.

Fla., Marianna—Consolidated Motor Co., capital \$25,000, inceptd. with C. W. Messer, Prest.; L. Williams, Secy.-Treas.

Fla., Orlando—Orlando Cadillac Co., capital \$25,000, inceptd. with W. D. Rogers, Prest.; Bert B. Rogers, Secy.

Fla., St. Cloud—Garage—J. B. Ellis, 10th St. and Minnesota Ave., will erect 50x100 ft. garage, brick construction.

Ga., Atlanta—Templar Motor Sales Co., North Ave. near Peachtree, inceptd. by J. H. Joyner, F. Waterman and F. C. Tindall.

Ky., Lexington—Lexington Motors Co., capital \$25,000, inceptd. by R. M. Hayes, Paul C. Barth, both Louisville; Thomas C. Gudgel, Lexington.

Ky., Louisville—Automobile Accessories—Starter Generator Exchange, inceptd. by W. P. Smith, Harry Strauss and Bernadine Oldiges.

Ky., Pikeville—Big Four Motor Co., organized with H. E. Syke, Prest.; F. F. Ratliff, Secy.-Treas.; purchased garage.

La., New Orleans—Jarreau Motors Co. let contract to Jefferson Construction Co. to erect 2-story brick building on Carrollton Ave.; \$40,376. (Lately noted.)

La., Plaquimine—Bernard Motor Service Co., capital \$20,000, inceptd. with W. L. Bernard, Prest.; Lee Miller, Secy.-Treas.

Mo., Clayton—Clayton Motor Co., capital \$10,000, inceptd. by J. F. and H. H. Wilmann, Melvin Jacaty.

Mo., Kansas City—Owners Co-operative Automobile Club, capital \$15,000, inceptd. by J. K. Keith, Lillian H. Atkins and J. A. Dougherty.

Okl., Oklahoma City—Frederickson Tire Co., inceptd. by G. R. Frederickson, R. T. and L. A. Swanson.

Okl., Oklahoma City—Automobiles—New Sales System Co., inceptd. by Nathan and Ed. Price, S. A. Little.

Okl., Oklahoma City—Tires—Harrison Smith Co., increased capital to \$400,000.

Okl., Vinita—Filling Station—Kapp & Smith will erect stucco filling station on E. Illinois Ave.

S. C., Marion—Elliott Motor Co., reported to erect filling station; purchased site.

Tenn., Chattanooga—Tubes, etc.—Dubois Tube & Rubber Co., reported to install additional mech. to double plants capacity; equipment purchased.

Tenn., Maryville—Filling Station—N. W. Lackey will erect filling station on Main street.

Tenn., Memphis—Universal Motor Car Co. will erect 96x148-ft. building, brick and steel construction; interior trim of quartered red gum and floors terrazzo; steam heated; estimated cost \$50,000; Estes W. Mann, Archt.

Tenn., Memphis—Filling Station, etc.—Reed Oil Co., let contract for erection of filling

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

station on Lamar Ave.; hollow tile and stucco with composition ornamentation; Mahon & Broadwell, Archts.

Tex., Breckenridge—Bennett Motor Co. will occupy 100x135-ft. building, brick construction; cost \$35,000; to be erected by Breckenridge S. Walker.

Tex., El Paso—Cassell Motor Co., capital \$15,000, inceptd. by D. U. Rakestraw and C. M. Wilchar.

Tex., Kosse—Kosse Motor Co., capital \$20,000, inceptd. by S. C. Fishburn, P. M. Humble and W. M. White.

W. Va., Huntington—Gillespie Motors Co., capital \$50,000, inceptd. by G. I. Gillespie, C. P. H. Mitchell and Fred Blockwood.

W. Va., Welch—Mountain State Motor Co., Gall T. Carter, Prest., let contract to Joe Acciello, for the excavation, stone and concrete work on garage building; 2-story; 98x-58 ft. constructed so as to add additional stories at any time.

Railways.

Ala., Gadsden—L. Sparkman, of Little Rock, Ark., and W. M. Wilson, of Beaumont, Tex., are reported investigating with an idea of building a railroad northward from Boaz or Albertville, Ala., along Sand Mountain to a point near Trenton, Ga.

Fla., Bartow—Charter for Florida Citrus Highlands Railway Co., with main office at Tampa, Fla., is published. Plan is to build a line from Lake Garfield in this (Polk) county to Sebring, Fla., 47 mi., with authority to build extensions and branches. Capital stock \$50,000. Limit of liability \$5,000,000. E. T. Roux, Plant City, Fla., Prest.; C. E. Lanier, Avon Park, Fla., Vice-Prest.; H. L. Askew, Plant City, Fla., Secy. and Treas.

Read and Street Construction.

Ala., Albany—H. Hartung, City Clerk, will improve streets; voted \$60,000 bonds.

Ala., Gadsden—City. For full details see Mch. Wanted—Paving and Sewer Construction.

Ala., Mobile—City Commr. For full details see Mch. Wanted—Paving.

Ala., Mobile—City Commr., R. V. Taylor, Street Commr., let contract to Hancock Brothers, Mobile, Ala.; at \$65,004.60 to pave principal streets, including Catherine from Government to Dauphin Sts.; St. Stephens road from Catherine to Ann St.; Bienville, Demony, Conti, etc.; Wright Smith, City Engr.

Ala., Tuscaloosa—State Highway Comsn., Montgomery, Ala. For full details See Mch. Wanted—Road Construction.

Ark., Batesville—Independence County Commr., E. C. Parsons, Chrmn., plans building 20-ft. hard surfaced road from Batesville to Missouri line, near Mammoth Spring, through Cushman, Mount Pleasant, Melbourne and Salem; contracts let about Oct. 1.

Ark., Clarendon—Monroe County Commr., Road Improvement District No. 3, Parker C. Ewan, Secy., let contract to J. A. Perdue & Co., Pine Bluff, Ark., at \$212,000, for 18% mi. gravel road between Clarendon and Helena, connecting Phillips and Monroe Counties, via Blackton and Marvel.

Ark., Pine Bluff—City, Pine Street Paving, Curb and Gutter Dist. No. 58 let contract to J. P. McNulty, at \$15,000, for paving streets in Dist., including Harding, 12th and 13th Aves.

Ark., Pine Bluff—City Commr., plan paving Walnut St. from Barraque to 6th Aves.; brick or asphalt; \$25,000.; W. C. Hudson, Commr.

D. C., Washington—Dist Commr. For full details See Mch. Wanted—Paving.

Fla., Blountstown—Calhoun County will complete hard surface road on Bee Line Highway; voted \$50,000 bonds. Address County Commr.

Fla., Jacksonville—Duval County Commr. For full details see Mch. Wanted—Road Construction.

Fla., Jacksonville—City Comsn., E. P. Owen, Jr., Secy., will resurface Duval St., from Hogan to Laura: 1840 sq. yds. x 1½-in. sheet asphalt; J. F. Morgan Co., low bidder. (Later noted.)

Fla., Lakeland—For full details See Land Developments.

Fla., Pensacola—Escambia County Commr. For full details see Mch. Wanted—Road Construction.

Fla., Tallahassee—For full details See Sewer Construction.

Fla., Wauchula—Hardee County Commr. For full details see Mch. Wanted—Road Construction.

Fla., West Palm Beach—Palm Beach County Commr., Hector Harris Chrmn., let contracts for following:

2 mi. hard surfaced road from Dixie Highway to Hooley's Point; to R. Tomasello, at \$8900.

5.5 mi. hard surfaced road from end of present rock road west of Boca Ratone to Range Line between Range 41 and 42; to C. W. Brown, at \$13,000.

8 mi. hard surfaced Boynton west road; to G. C. Meredith, at \$25,000.

Fla., West Palm Beach—Palm Beach County Commr. For full details see Mch. Wanted—Road Construction.

Ga., Brunswick—Glynn County will build road from Brunswick to St. Simon Island; voted \$175,000 bonds. Address County Commr. (Later noted.)

Ga., Columbia—Muscogee County Commr., Chas. M. Woolfolk, Chrmn., plans placing tarvia on 17th, south of Wildwood Park, and on Buena Vista road from Jackson's store to Brown St.

Ga., Lagrange—State Highway Dept., Atlanta, Ga., let contract to Davis Construction Co., Macon, Ga., at \$132,000 for 5.5 mi. 7-in. plain concrete pavement on Atlanta—Lagrange road; Troup County, Federal Aid Project No. 98.

Ky., Covington—City Commr. will improve streets; plans voting on \$500,000 bonds.

Ky., Hazard—Perry County Fiscal Court, Joshua A. Smith, County Judge, plans County's part of Kentucky-Virginia Highway, from Lexington to Pound Gap, Va.; will issue \$500,000 bonds.

La., Lake Charles—J. A. Trott, Mayor, plans expending \$2,000,000 for street paving and increased water supply, etc.

Md., Annapolis—City will pave 3 sections highway. For full details See Mch. Wanted—Road Construction.

Maryland—State Roads Comsn., 601 Garrett Bldg., Baltimore, Md., received bids for following:

Baltimore City—42 mi. sheet asphalt road on Columbia Ave. from Monroe St. to Gwynns Falls; Baltimore Asphalt Block & Tile Co., 1320 N. Monroe St., Baltimore, at \$33,950, low bidder.

Dorchester County—1.53 mi. concrete road from Rhodesdale to Vienna; to Holt Construction Co., Federalsburg, Md., at \$34,934, low bidder.

Carroll County—2.05 mi. concrete road from Westminster to Warfieldburg; to Thom-

as, Bennett & Hunter, Westminster, Md., at \$84,097, low bidder.

St. Mary's County—1 mi. gravel road from State road ½ mi. north of Leonardtown toward Compton; to St. Mary's Construction Co., at \$16,037, low bidder.

Miss., Gulfport—City let contract to J. F. Morgan Paving Co., Birmingham, Ala., at \$33,948.25, for hard surface paving on certain streets; to G. S. Hopkins, Gulfport, at \$5,095.50 for sidewalks.

Miss., Pascagoula—State Highway Comsn., Jackson, Miss., approved plans for first link of Old Spanish Trail from Alabama State line to East Pascagoula River.

Missouri—State Highway Dept., Jefferson City, Mo., will build 30 roads. For full details see Mch. Wanted—Road Construction.

Mo., Cape Girardeau—City. For full details see Mch. Wanted—Paving.

Mo., Gallatin—State Highway Dept., Jefferson City, Mo. For full details See Mch. Wanted—Road Construction.

Mo., Hermitage—State Highway Dept., Jefferson City, Mo. For full details See Mch. Wanted—Road Construction.

Mo., Kansas City—City, Park Board, plans extending Warwick Blvd. from 33rd to 35th Sts.

Mo., Liberty—State Highway Dept., Jefferson City, Mo. For full details See Mch. Wanted—Road Construction.

Mo., Mexico—City. For full details see Mch. Wanted—Paving.

Mo., Springfield—J. P. Ramsey, Mayor, plans paving 10,570 sq. yds. on Kickapoo Ave.; tarvia double sealed pavement with hammer sledged base; bids about Sept. 29. (Later noted.)

Mo., St. Charles—State Highway Dept., Jefferson City, Mo., let contract to George Brotherton, Hamburg, Mo., at \$10,008.95, to grade, widen and construct necessary culverts on 5.1687 mi. Marthasville road.

Missouri—State Highway Dept., Jefferson City, Mo., plans following:

Pemiscot County, 3,080 mi. State road on Kings Highway from Hayti to Portageville; gravel pavement; Federal Aid Project No. 173-A.

Dunklin County, 6.586 mi. State road from Kennett to Paragould; concrete and gravel pavement; Federal Aid Project No. 199. Frank B. Newton, Div. Engr., Sikes-ton, Mo.

Livingston County, 6.015 mi. State road from Chillicothe northward; State Aid Project No. 20,193; O. P. Owens, Div. Engr., Howe Bldg., Macon, Mo.

Holt County, 3,306 mi. State road from Atchison County line to Andrew County line; State Aid Project No. 20,190; N. R. Sack, Div. Engr., Ballinger Bldg., St. Joseph, Mo.; grade and construct drainage structures on all.

Mo., St. Joseph—City. For full details See Mch. Wanted—Paving.

Mo., Trenton—City plans paving Haliburton Alley with reinforced concrete and necessary curb. Address The Mayor.

Mo., Unionville—State Highway Dept., Jefferson City, Mo., let contract to Henderson Washam, Jacksonville, Mo., at \$19,000 for 2.806 mi. State road from Unionville northward and southward; State Aid Project No. 20,198.

N. C., Charlotte—City plans widening 7th St. from Tryon St. to Southern railroad tracks. Address The Mayor.

N. C., Hillsboro—T. M. Arrasmith, Mayor, let contract to Hudson Construction Co., Salisbury, N. C., at \$50,000 (subject to elec-

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

tion), to pave 1 mi. streets; concrete with sheet asphalt finish; vote Oct. 10, on \$60,000; W. M. Piatt, Engr., Durham, N. C. (Lately noted.)

N. C., Kenansville—Duplin County Highway Comsn. For full details see Mchy. Wanted—Road Construction.

N. C., Kings Mountain—Town will improve streets; \$16,000 available. Address The Mayor.

N. C., Mooresville—City let contract to Thompson-Caldwell Construction Co., for 1 mi. concrete sidewalk on Broad St. from Moore Ave. to city limits. Address The Mayor.

N. C., Nashville—Nash County Highway Comsn., W. S. Wilkerson, Chrmn., let contract to Chandler & Ragland, Louisburg, N. C., at \$48,500, to gravel or sand clay 20 mi. road from Nashville to Bailey, via Strickland's Mill; M. S. Davis, Engr., Louisburg, N. C. (Lately noted.)

N. C., Winston-Salem—For full details See Land Developments.

Okla., Barnsdall—City will pave Maple St., from 4th to 8th, and 8th St. from Cedar to Maple Sts.; Address The Mayor.

Okla., Claremore—Rogers County plans building 4 roads:

From County line east of Catoosa to hard-surfaced road at Tulsa County line, through Claremore, Chelsea and Catoosa.

From Nowata County line to Mayes County line, near Inola, through Tahala, Colagah, Sageeyah, Claremore, Tiawah and Inola.

From Tulsa County line near Collinsville to Mayes County line near Pryor, through Claremore.

From Mayes County line to point on Nowata County line near Alliwee, through Chelsea; contemplates voting on \$500,000 bonds. Address County Commsr.

Okla., McAlester—Pittsburgh County plans building 2 1/2 mi. shale road from Kiowa to Pittsburg; straighten and grade; \$10,000. Address County Commsr.

Okla., Okemah—State Highway Comsn., Oklahoma City, Okla., plans gravel surfacing 19.10 mi. road from Okemah to Weleetka; Okfuske County; \$297,885; Ernest S. Alderman, State Engr. (Lately noted.)

Okla., Ponca City—City Commsr. plan paving 6 blocks on S. 3rd St.; 12 on Cleveland Ave.; 2 on 10th St.; 8 on 9th St. and 5 on 7th St.

Okla., Tulsa—Tulsa County Commsr. will lay ½ mi. concrete road from Skiatook paved road to Main St. in that town; will invite bids.

Okla., Waggoner—City will pave 4 blocks from Church and State Sts. to McQuerries Ave., voted \$30,000 bonds. Address The Mayor.

S. C., Abbeville—Abbeville County Highway Comsn., received bids for following: 4.18 mi. top soil road from Calhoun Falls to McCormick County line, via Hester's store; low bidder, McCalla Brothers, Lowndesville, at \$7,474.87.

7.4 mi. top soil road from Abbeville to Greenwood County line at Cedar Springs school-house; low bidder, McKenzie & Johnson, Abbeville, at \$15,453.40.

8.77 mi. Abbeville-McCormick road between Abbeville and McCormick County line; Abbeville County; low bidder, J. C. Moffatt, McCormick, S. C., at \$20,951.21.

S. C., Chester—Chester County Board of Directors, let contract to T. H. Snipes, Lancaster, S. C., at \$8162.73, to grade, etc., 3 1/4 mi. Armenian road from township line near Grant's cross-roads toward Mount Pleasant Church.

S. C., Florence—City plans paving Galloway St. from Evans to S. Elm. Coit, W.

Evans and Irby Sts., etc. Address Mayor Barringer.

S. C., Fort Mill—Fort Mill Township Highway Comsn. For full details see Mchy. Wanted—Road Construction.

S. C., Spartanburg—City plans widening Main St. and constructing viaduct over lower section. Address Mayor Floyd.

S. C., Sumter—Sumter County Permanent Road Comsn., let contracts for following:

Sumter-Manning road, 6.1 mi. asphaltic concrete; to Robt. G. Lassiter & Co., Raleigh, N. C., at \$152,839.62.

Camden road, 4.2 mi. asphaltic concrete; to Robt. G. Lassiter & Co., Raleigh, N. C., at \$102,770.11.

Bishopville road, 4.3 mi. concrete; to C. D. Rigsbee, Durham, N. C., at \$119,803.70.

Maysville road, 4.3 mi. asphaltic concrete; to C. D. Rigsbee, Durham, N. C., at \$117,339.05.

Pinewood road, 4.3 mi. asphaltic concrete; to Powell Paving & Construction Co., Columbia, S. C., at \$107,998.70.

S. C., Woodruff—Town will build road from Woodruff to Spartanburg, via Switzer and Moore; State Highway No. 10; plans completing Nesbitt Bridge road. Address The Mayor.

Tennessee—State Highway Dept., Nashville, Tenn., let contracts for following:

To A. J. Wardrep, Knoxville, Tenn., at \$38,000 to surface 3.8 mi. bituminous macadam roadway of Federal Aid Projects Nos. 2 and 24, section of State Highway No. 39, Marion County, between Hamilton County and eastern end of Federal Aid Project No. 72.

To Warren County Construction Co., Nashville, Tenn., at \$130,000 for 5.75 mi. bituminous macadam penetration road on State Highway No. 1, between Cannon County line and McMinnville; Federal Aid Project No. 65-B; D. Q. McComb, State Chief Engr., Nashville.

Tenn., Coalmont—Grundy County Highway Comsn. For full details see Mchy. Wanted—Road Construction.

Tenn., Dandridge—Jefferson County, J. W. Spradlin, Commr. of Roads, plans repairing 11 mi. Strawberry Plains road from Boyd's Bridge to junction of Thorn Grove and Strawberry Plains Pike, then to Huffaker's Ferry; waterbound macadam; invites bids.

Tenn., Jacksboro—Campbell County Highway Comsn., E. L. Gaylor, Commr., let contracts to Wheeler & Harrison, White Pine, Tenn., to grade and build following roads: No. 13, 3 mi.; \$5000.

No. 17, 5 mi.; \$15,000.

No. 18, 4 mi. rock and concrete; \$10,000; D. C. Rogers, Chrmn., National Bank Bldg., Lafollette, Tenn.

Tenn., Memphis—City, Park Comsn., plans extending North Parkway from Manassas to Jackson Sts.

Texas—State Highway Comsn., Austin, Tex., will let contracts soon for following:

6.146 mi. oil field road from Adams Bayou to Cow Bayou.

3.13 mi. lower Beaumont road from Cow Bayou to shelled portion west of oil field.

3 mi. lake road from junction lower Beaumont road to Prairie View school house.

3.21 mi. East Texas Highway No. 8, from Mauriceville to Newton County line.

7.45 mi. East Texas Highway from Mauriceville to State Highway No. 3.

7.73 mi. Mauriceville road from State Highway No. 3 to Bancroft's warehouse.

3.31 mi. Terry Doty road to State Highway No. 3.

1.87 mi. road from Terry to lower Beaumont.

1.85 mi. Mauriceville-Lemonville road from Mauriceville to Lemonville.

3.37 mi. Lemonville road from Lemonville south to precinct line.

.23 mi. Newton-Lemonville road, complete shell or gravel surfacing on 2 small gaps between Orange and Little Cypress Bayou.

Tex., Alpine—Brewster County will improve roads; voted \$300,000 bonds. Address County Commsr. (Lately noted.)

Tex., Alvarado—For full details See Water Works.

Tex., Bonham—Fannin County plans paving 7.2 mi. State Highway No. 5 in Honey Grove Dist.; concrete; \$228,500; A. P. Boldin, County Judge, Bonham; P. B. Price, Res. Engr., Road Dist. No. 4, Honey Grove.

Tex., Cameron—Milam County, Jeff Kemp, County Judge, let contract to Gunter & Bullock, Kosse, Tex., to grade and gravel surface 8 mi. road in Ruidoso Dist. No. 29; to Barmore & Brown, Cameron, for culverts; \$21,000; A. F. Mitchell, County Engr.

Tex., Center—State Highway Dept., Austin, Tex., approved plans for 6 mi. 16-ft. gravel road on State Highway No. 35, Shelby County, between Timpson and Attoya River; \$84,346; J. B. Burns, County Judge, Center; I. R. Titus, County Engr., Timpson.

Tex., Cleburne—Johnson County plans building 12.56 mi. State Highway No. 2A, near Burleson; ask Federal Aid for additional \$36,622.51; C. C. Chrisman, County Judge, Cleburne; J. G. Lott, Engr. in Charge, Alvarado, Tex.

Tex., Coleman—Coleman County Commsr. Court, L. G. Matthews, County Judge, let contract to Womack Construction Co., Sherman, Tex., at \$190,000, to improve 17.72 mi. State Highway No. 7; through Coleman and Santa Anna to Brown County line; Federal Aid Project No. 194; W. E. Dickerson, County Engr., Coleman. (Lately noted.)

Tex., Corpus Christi—Nueces County. For full details see Mchy. Wanted—Road Construction.

Tex., Corsicana—Navarro County will improve highways; plans voting on \$5,000,000 bonds. Address A. P. Mays, County Judge, Corsicana.

Tex., Dallas—For full details See Land Developments.

Tex., Edinburg—U. S. Bureau of Public Roads, Washington, D. C., approved plans for 14 mi. 18-ft. concrete road from Edinburg south to Pharr, then to Alamo, on State Highway No. 12; Hidalgo County, Federal Aid Project No. 301; \$602,208.50; Geo. P. Brown, County Judge, Edinburg; P. S. Devine, County Engr., Pharr, Tex.

Tex., El Paso—City. For full details see Mchy. Wanted—Paving.

Tex., Fort Worth—Tarrant County Commsr. Court, Hugh L. Small, County Judge, let contract to Purvis & Lowry, at \$151,576.51 for 3.17 mi. Pleasant Glade road from Grapevine-Cardinal to Arlington-Grapevine road. (Lately noted.)

Tex., Fort Worth—Tarrant County Commsr. Court, Hugh L. Small, Judge, let contracts for following:

8.13 mi. Grapevine-Cardinal road, through Bedford to Euless road; gravel base; to McCoy & Richards, Arlington, Tex., at \$25,704.16.

Grade and construct drainage structures on 3.64 mi. State Highway No. 4, Keller-Denton road; to Tibbets Construction Co., 209½ W. 8th St., Fort Worth, at \$10,914.97; invites bids for asphalt macadam pavement; R. V. Glenn, County Engr.

To Purvis & Lowry, at \$16,870, for following:

2.10 mi. Bludworth School road from Mansfield Cardinal road to Bludworth School.

1.58 mi. Arkansas lane, from Arlington-Webb-Britton road to Dallas County line.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Tex., Georgetown—Williamson County. For full details See Mchy. Wanted—Road Construction.

Tex., Houston—For full details See Mchy. Wanted—Paving and Sewers.

Tex., Houston—O. F. Holcombe, Mayor, plans paving Louisiana from Louisiana to Chenevert Sts.; Hawthorne Ave. from Morgan Place to Roseland Ave.; paving and widening Milam St. between Preston and Polk Aves.

Tex., Huntsville—City. For full details see Mchy. Wanted—Paving.

Tex., Johnson City—Blanco County plans building 2 remaining unimproved sections of Austin-Fredericksburg road, through Blanco County; State Highway No. 20-A; \$102,500; State and Federal Aid granted; Wm. Martiny, County Judge.

Tex., Lubbock—Lubbock County, Slaton Rd. District will improve roads; voted \$20,000 bonds. Address B. F. Brown, County Judge, Lubbock.

Tex., Lufkin—Chief Engr., U. S. Bureau of Public Roads, Washington, D. C., approved plans for:

5.09 mi. 16-ft. gravel road on State Highway No. 35, Angelina County, from Lufkin south; \$133,498.42.

9.7 mi. 16-ft. gravel road on State Highway No. 7, between Lufkin and Huntington; \$163,000; Angelina County will invite bids; John F. Robinson, County Judge; G. R. Abney, County Engr., Lufkin.

Tex., Memphis—For full details See Mchy. Wanted—Drainage Work.

Tex., Palestine—Anderson County plans following improvements:

Linking County's part of highway between Dallas and Houston.

County's part of Roger Q. Mills highway running east and west; contemplates voting on \$1,000,000 bonds. Address County Comr.

Tex., Pecos—Reeves County plans 3.7 mi. gravel on State Highway No. 27-A; \$18,000; J. F. Ross, County Judge, Pecos; A. J. Adcock, County Engr., Balmorhea, Tex.

Tex., San Antonio—Bexar County. For full details See Mchy. Wanted—Road Construction.

Tex., San Antonio—Bexar County plans building 2.2 mi. State Highway No. 9 on Pleasanton road section, between San Antonio and Atascosa County line; gravel surface; bituminous topping \$51,366; Augustus McCloskey, County Judge; R. E. Killmer, County Engr.

Tex., Sequin—Guadalupe County, J. B. Williams, County Judge, let contract to Hayden & Austin, Hill and Marsh Sts., Houston, Tex., at \$110,794.89, to surface 19 mi. State Highway No. 19, from Sequin to Bexar County line; 1 1/2-in. inverted penetration bituminous topping.

Tex., Seymour—Baylor County, Precinct No. 4, will improve roads; votes Sept 30 on \$40,000 bonds; Nat. G. Mitchell, County Judge; T. J. Kelly, County Engr.

Tex., Vernon—State Highway Dept., Austin, Tex., approved plans for 3.62 mi. 18-ft. concrete road from point 3 miles from Tolbert, Wilbarger County, to Pease River; \$142,000; E. L. McHugh, County Judge; J. B. Nabors, County Engr.

Tex., Waco—McLennan County plans 3.7 mi. 16-ft. gravel bituminous road on State Highway No. 7, from McGregor, east; \$33,465; J. P. Lester, County Judge; Mantan Hannah, County Engr.

Tex., Wellington—C. B. Myers, City Secy., let contract to Panhandle Construction Co., Lubbock, Tex., at \$37,485, for 10,500 sq. yds.

brick pavement; asphalt filler on concrete base.

Virginia—State Highway Coms., Richmond, Va., received bids for following:

6 1/2 mi. concrete road from Falling Creek to Dutch Gap road, on Richmond-Petersburg highway; low bidder, C. M. Henley, Richmond, at \$170,731.34.

5.01 mi. road from Chantilly to Loudoun County line; at \$135,190.72.

.84 mi. road between Chantilly and Fairfax; at \$15,253.70.

.45 mi. road near Mt. Zion Church in Fairfax-Loudoun section; at \$8110.19.

4.75 mi. road from Fairfax to Loudoun County line; at \$107,192.91; all bituminous macadam.

2.36 mi. top soil road from Stemple's store Halifax County, to North Carolina line; low bidder, W. W. Tuck, at \$7721.91.

4.61 mi. concrete road west of Suffolk; low bidder, Boyer & Ferguson, at \$136,781.90.

.27 mi. concrete road west of Louisa; low bidder, L. W. Colbert, at \$199,590.48.

Virginia—State Highway Dept., Richmond, Va., will build 7 roads. For full details see Mchy. Wanted—Road Construction.

Va., Lynchburg—City. For full details See Mchy. Wanted—Paving.

Va., Richmond—Allen J. Saville, Director of Public Works, plans grading and guttering Monument Ave. from Roseneath Road to Three Chopt Road.

W. Va., Charleston—City will pave South Side road from Chesapeake & Ohio Ry. to Porters branch; asphaltic concrete; will invite bids; also plans paving additional streets and sidewalks, including Beechwood, Frame, O'Connors, Fife, Morris, Veazey Sts., and Halls Alley. Address The Mayor.

W. Va., Fairmont—Luke C. Arnett, City Clk., let contract to W. R. Bainbridge, to pave Hamilton St. with cement; to R. W. Fimple, for Maple Ave. and McKinney St. with brick; plans paving 10th St., and Bellview Ave.

W. Va., Welch—McDowell County Court, let contracts to grade and rock surface following projects:

2163—5 1/2 mi. road from top of Indian Mountain southerly; to Albert Bros., Charlesville, Va., at \$203,400.

2166—5 1/4 mi. road toward War; to Walton Sudduth, Bluefield, W. Va., at \$219,725; W. J. McLaren, County Engr.

Sewer Construction.

Ala., Anniston—City let contract to J. F. Morgan Paving Co., Birmingham, Ala., for construction of Tenth street storm sewer; will vote on \$50,000 bonds for extension of west and south sewer lines. (Lately noted.)

Ala., Gadsden—For full details See Mchy. Wanted—Paving and Sewer Construction.

Ala., Gadsden—City let contract at \$66,143.71, to Sullivan, Long & Haggerty, Bessemer, Ala., to construct approx. 18 mi. of sanitary sewer in northern and western sections of city. (Lately noted.)

Ala., Mobile—City let contract at \$16,423.00 to Hancock Bros., Mobile, to construct storm sewers and paving. (Lately noted.)

Fla., Ft. Lauderdale—City let contract to Nell A. Campbell, West Palm Beach, for construction of sanitary sewer system.

Fla., Lakeland—For full details See Land Developments.

Fla., St. Petersburg—City will probably vote on \$135,000 bonds for sanitary sewer system on various streets. E. C. Garvin, Director of Public Works.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Fla., Tallahassee—City will pave streets, extend sewer system, improve septic tanks; votes Nov. 21 on \$125,000 street paving bonds, \$12,000 for sewer extension and improvements and \$8000 to improve septic tanks. Address The Mayor.

Fla., Tampa—For full details See Mchy. Wanted—Sewer Construction.

Ga., Decatur—For full details See Mchy. Wanted—Sewer Construction.

Ky., Owensboro—City, E. B. Shifley, City Engr., will construct extension to sewer, reinforced concrete, 4" in diam.; construction by city forces. (Lately noted.)

La., Cedar Grove—For full details See Machinery Wanted—Water Works and Sewer System.

Mo., Joplin—City let contract to E. V. Koch for construction of sewer in 33rd St. District No. 1. (Lately noted.)

N. C., Winston-Salem—For full details See Land Developments.

Okla., Chickasha—City contemplates extending sewer system. Address The Mayor.

Tex., Dallas—For full details See Land Developments.

Tex., Houston—For full details See Mchy. Wanted—Paving and Sewers.

Tex., Memphis—For full details See Mchy. Wanted—Drainage Work.

Tex., Tulsa—City will extend sewer system; votes Oct. 12 on \$50,000 bonds. Address The Mayor.

Va., Richmond—City will construct permanent improvements to sewer system of Shockoe Valley; will construct two outlets, one running along 15th St. between Hospital St. and the river and the other along 18th St. from Broad St. to river; cost between \$2,000,000 and \$3,000,000; Allen J. Saville, Director of Public Works. (Lately noted.)

Street Railways.

Tex., Beaumont—Eastern Texas Electric Co. has begun construction of extension to South Texas State Fair Grounds. Cost \$15,000. W. A. Robertson is Supt.

Telephone Systems.

Fla., Lakeland—For full details See Land Developments.

W. Va., Fairmont—Chesapeake & Potomac Telephone Co., of W. Virginia, M. W. Seabolt, Mgr., will expend \$44,650 for extension and improvements; construction begun.

Textile Mills.

N. C., Charlotte—Blankets—Carolina Blanket Co., incptd. by Wm. Cosby, J. M. Sammonds, J. A. Waggoner.

N. C., Greensboro—Handkerchiefs—B. B. Phillips Mfg. Co., capital \$25,000, incptd. by B. B. Phillips, Flora B. Phillips, E. P. Wharton; will mfre. handkerchiefs, cotton and woolen goods.

Tenn., Jackson—Hosiery—B. J. Priester will erect hosiery mill with daily capacity 750 doz. prs. hose; 110x150 ft.; steel concrete and brick; install 250 knitting machines; chain drive, develop 60 H. P.; cost of building \$50,000; cost of machinery \$75,000. (Lately noted.)

Tex., New Braunfels—Gingham—Planters & Merchants Mills, 604 Brady Bldg., San Antonio, organized with \$10,000,000 capital, S. M. Ransopher, Prest. Gen. Mgr., New Braunfels; J. D. Gilliland, Secy.-Treas., 604 Brady Bldg., San Antonio, is erecting plant 314x131 ft.; concrete construction; cost \$160,000, construction by owners; will install 10,008 spindles, 350 looms, cost of machy. \$400,000; install \$85,000 hydro-electric plant,

440 H. P., electric drive (Construction nearly complete); Lockwood, Greene & Co., Engrs., 24 Federal St., Boston, Mass.; R. J. H. Worcester, Resident Engr., New Braunfels, Tex. (Lately noted.)

W. Va., Charleston—National Woolen Mills increased capital to \$1,000,000.

W. Va., Princeton—Princeton Hosiery Mills Co., Lowring G. Bowling, Pres., L. H. Perkins, Secy., lately noted incptd. with \$75,000 capital, will erect 50x150 ft. building; brick; cost \$15,000; install about 100 knitting machines.

Water Works.

Ala., Gordo—For full details See Electric Light and Power Plants.

Ark., Little Rock—City will extend water system for fire protection. Address The Mayor.

Ala., Cedar Grove—For full details See Mchly. Wanted—Water Works and Sewer System.

Fla., Apalachicola—City will construct electric light and water plant; W. G. Eager, Consit. Engr., Valdosta, Ga.

Fla., Lakeland—For full details See Land Developments.

Fla., Pensacola—City contemplates expending about \$93,000 within next year on improvements to water system; Frank D. Sanders, Commr.

Fla., Tampa—City will vote on \$36,000 bonds for water works and construction of grandstand. W. J. Barratt, Chrmn. of Water Board.

Fla., West Palm Beach—City let contract at \$25,665.65 to Dousman Pump & Machinery Co., Kansas City, Mo. for furnishing and installing 2 centrifugal pumps for city's high pressure fire system; 130-lb. pressure centrifugals to pump against a 304-ft. head and on 74 per cent efficiency to handle flow of 1500 gals. per minute; city is receiving bids for 2300 volt cable from generator in electric light plant to pump house at city pier, cable to be laid underground with water pipes. (Lately noted.)

La., Lake Charles—For full details see Road and Street Construction.

Miss., Jonestown—For full details See Mchly. Wanted—Water Works.

Mo., Milan—City will extend water mains, construct filtration plant; voted \$29,000 bonds; improve electric light plant; voted \$16,000 bonds. Address The Mayor.

N. C., Asheville—City, contemplates constructing impounding reservoir at Bee Tree, storage capacity of about 189,000,000 gals., cost about \$500,000; Charles E. Waddell, Consit. Engr. (Lately noted.)

N. C., Winston-Salem—For full details See Land Developments.

Okla., Cyril—City will extend water system, votes on \$25,000 bonds. Address The Mayor.

Tenn., Memphis—For full details see Mchly. Wanted—Water Works (Artesian.)

Tex., Alvarado—City will improve water works, voted \$30,000 bonds, improve streets, voted \$19,000 bonds. Address The Mayor.

Tex., Dallas—Dallas County, Beverly Hills Fresh Water District, No. 2 will incorporate and issue \$10,000 bonds for fresh water supply system. Address County Commrs.

Tex., Sherman—City will increase water supply; drill well with 1,000,000 gal. capacity. Address The Mayor.

Tex., Tulla—City will extend and improve water works systems; votes Oct. 12 on \$50,000 bonds. Address The Mayor.

Va., Radford—City, Paul J. B. Murphy,

City Mgr., let contract to Municipal Paving & Construction Co., Bristol, Va., to construct 2,500,000 gal. reservoir, estimated cost \$12,000; extend pipe line, cost \$18,000; improve electric light plant, cost \$20,000. Lately noted. See Mchly. Wanted—Water Works Equipment; Electric Equipment.

Woodworking Plant.

Ala., Birmingham—Blackmon-Jones Furniture Co., capital \$10,000, incptd. with T. G. Blackmon, Pres.; Don Dee Jones, Secy.-Treas.

Ala., Birmingham—Oster Furniture Co., capital \$20,000, incptd. by Wm. Leslie and others.

Ala., Mobile—Modern Truck Mfg. Co., capital \$50,000, incptd. with G. M. Bryde, Gen. Mgr.

Fla., Lake Garfield—P. O. Alturus.—Roux Crate Co. acquired 24,200 acres timber tract in Manatee County, will develop.

Md., Baltimore—Columbia Cooperage Co., 650 Calvert Bldg., capital \$50,000, incptd. by William and Ellis Rosenberg, Samuel S. Levin.

Mo., St. Louis—Phonographs, etc.—Supreme Radio Mfg. & Appliance Co., capital \$25,000, incptd. by D. E. Jones, L. J. Richi and L. M. Peltason; mfrs. phonographs, general woodworking, radio and wireless equipment, etc.

Tex., Tyler—Ward Veneer & Crate Co., incptd. by Claude Ward, J. R. McBride and T. B. Ramey, Jr.

Va., Atavista—Cedar Chests—Lane Co., Inc. changed name from Standard Red Cedar Chest Co., also increased capital.

Va., Oakton—S. L. Whitesell Folding Box Coop & Crate Mfg., capital \$50,000; incptd. by Harry S. Whitesell and L. Brooks Clark, both Oakton; Adolph Von Schulembach, Altoona, Pa.

W. Va., Huntington—Home Furniture Co., \$51 3rd Ave., have leased 4-story, 30x110-ft. building, will remodel, install electric elevator, etc. (See Mchly. Wanted—Elevator.)

FIRE DAMAGE

Ala., Birmingham—Building occupied by Interstate Belting & Packing Co., Atlas Machinery & Supply Co., and Walstrum Armature Works; loss approx. \$30,000; building owned by J. M. Cartwright.

Ala., Camp Hill—Farmers' Union Warehouse Co.'s warehouse.

Ala., Collinsville—Collinsville Post, Drug Store and Post Office building; loss not estimated.

Ark., El Dorado—Mrs. L. D. Shuler's building; loss \$20,000.

Ark., El Dorado—American Cafe; Terminal Barber Shop; Pye Johnson Drug Co.; loss \$50,000.

Ark., Forrest City—Yocona Gin Co.'s gin and sawmill at Yocona, near Forrest City; loss \$12,000.

Ark., Lonsdale—Liberty Garage; Jno. Bowen's store and residence; Lowe Bros.' store; Signor & Sons' store; town jail; Norsworthy's

store, blacksmith shop and 5 residences; post office.

Ark., Plumerville—W. G. Reddig's cotton gin; loss \$18,000.

Ark., Warren—Evans Auditorium.

Ark., Woodson—Moore-Case's cotton gin, S. A. Moore, Propr.; loss \$7500.

Fla., West Palm Beach—House and cattle shed of The Wright Dairy, loss about \$32,000, Earl Wright, Propr.

Ga., Augusta—Atlantic States Warehouse Co.'s building; loss \$10,000.

Ga., Macon—Atlantic Coal & Ice Co.'s stables.

Ga., Omega—W. C. Mobley & Co., G. W. Mallory & Co., W. A. Lamb Co., and Renz Drug Co.'s stores; loss \$40,000.

Ga., Sandersville—Sam Goodrich's store.

Ky., Louisville—Oakdale Drug Store, Taylor and Berry Blvd.; loss \$25,000.

La., New Orleans—Gallagher Transfer & Storage Co.'s main office and 2 storage buildings.

La., New Orleans—City Wharves and docks; estimated loss \$5,000,000.

Miss., Belzoni—Nelson Hotel. Address The Proprietor.

Miss., Olive Branch—Cotton gin owned by M. Belz, Memphis, Tenn.

Miss., Picayune—H. L. Pearson's Picayune Garage; loss not estimated.

Mo., Carl Junction—Coyne Hatton Milling Co.'s plant, A. D. Hatten, Propr., Webb City; loss \$60,000.

Mo., Holland—East St. Louis Cotton Oil Co.'s cotton gin; loss \$15,000.

N. C., High Point—Plant of P. A. Thomas Car Works; loss \$250,000.

N. C., Rutherfordton—Will C. Hardin's sawmill and lumber plant.

N. C., Wilmington—American Cotton Oil Co.'s warehouse at Hilton, Henry Bowden, Local Mgr.; loss \$25,000.

N. C., Wilson—Fes Strickland's barns and outbuildings near Stanhope.

Okla., Elk City—Hope and Hainey cotton gin; loss \$17,000.

Okla., Miami—M. T. Cox's flour mill; loss \$10,000.

Okla., Ponca City—Roosevelt School. Address School Board.

S. C., Rock Hill—Ed Fewell's 2 warehouses.

Tenn., Rossville—Iron Kettle, tea room near Chicamangus Park, owned by Mrs. Lizzie Lee Allison Brown; loss \$12,000.

Tex., Big Springs—Knott Gin, owned by B. G. Bly.

Tex., Corsicana—E. S. Crew's cotton gin; loss \$15,000.

Tex., Dallas—Interstate Forwarding Co.'s warehouse, owned by Parlin-Orendorf Implement Co.

Tex., Hearne—Travis Cotton Seed Products Co.'s oil mill; loss \$125,000.

Tex., Thornton—Cook Bros.' seed house and cotton gin.

Va., Lexington—Castle Hill Academy. Address Washington & Lee University.

W. Va., Nitro—Nitro Pencil Co.'s plant; loss \$100,000.

BUILDING NEWS

BUILDINGS PROPOSED

Apartment Houses.

Fla., Lake Worth—T. B. Callahan and others, Cincinnati, O., will erect building.

North J and 13th Sts.; probably store room.

La., New Orleans—Standard Housing & Investment Co., John Sangassan, Mgr., will erect two 8-story buildings, St. Charles Ave.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

and Calhoun St.; \$250,000; brick and steel; tile roof gardens; 128 apartments each; built-in features; freight and passenger elevators.

Mo., Kansas City—D. M. Hutchens will erect \$10,000 building, 2907-09 Lynn Ave.; 3 stories; brick.

Mo., Kansas City—J. B. Bristow will erect \$10,000 building, 4408-10 Tracy Ave.; frame; 2 stories.

Okla., Oklahoma City—O. A. Knost will erect \$10,000 frame apartment, 616 W. 26th St.

W. Va., Charleston—W. M. Creamer will erect \$11,000 building, 2511 Washington St.; 18 rooms; 3 stories.

Association and Fraternal.

Ark., Hope—Benevolent Protective Order of Elks will erect building, N. Elm and West Aves.

Fla., Miami—Harvey Seeds Post No. 29, American Legion, Norris McElyea, Commdr., will erect building; about \$42,190; 81x95 ft.; fireproof; concrete; hot water system for showers; auditorium or gymnasium on first floor; probably hydraulic jacks for tilting 40x60-ft. floor; Robt. R. Reibert, Jr., Archt.; plans not complete. Address M. S. Bobst. (Lately noted.)

Fla., Panama City—Acme Lodge No. 222, A. F. & A. M., will erect \$100,000 building; 70x165 ft.; brick and mill construction; promenade tile-roof; hardwood floors; metal ceilings; interior tile; vaults; ventilators; steel sash and trim; steam heat; 1 passenger and 1 freight elevator; J. W. Crone & Sons, Archts., Winchester, Ky.; plans ready about Oct. 30. (Lately noted.)

La., New Orleans—American Legion, Sam P. Stone, 714 Union St., will alter Girod St. warehouse for auditorium, 200x360 ft.; seat 10,000; stage, dressing and rest rooms, etc.

Tex., San Antonio—Scottish Rite Masons abandoned day labor method of erecting \$700,000 cathedral and receive bids until Oct. 17 at office Ralph H. Cameron, Archt., Central Trust Bldg., for general and sub-contracts, together and separately; 150x250 ft.; 2 stories and basement; steel; fireproof; stone or brick facing; hollow fireproof tile; concrete and hardwood floors; metal doors; vaults; wire glass; Herbert M. Green Co., Dallas, Asso. Archts. (Various contracts previously noted.)

Bank and Office.

Ala., Birmingham—Birmingham Baptist Assn., Jesse A. Cook, Chrmn., Bldg. Comm. plans \$100,000 to \$500,000 building.

Ala., Mobile—Farmers & Mechanics Bank, M. J. McDermott, Prest., will remodel 4-story building, Dauphin and Water Sts.; bank on first floor, offices above.

Fla., De Land—Volusia County Abstract Co. will erect \$40,000 building; 52x60 ft.; stone front; offices on second floor; Fuquay & Green, Inc., Archts., Daytona Beach.

Fla., Groveland—Bank of Groveland, E. E. Edge, Prest., plans to increase capital to \$25,000 and enlarge building; deposit vault and safety deposit boxes.

Mo., Cameron—State Farmers Mutual Tornado Insurance Co. will erect \$10,000 building; stone front.

N. C., Mocksville—Southern Bank & Trust Co., D. H. Hendricks, Prest., will erect \$25,000 building on N. Main St. 2 stories; tile or brick; 2 store rooms.

Tenn., Chattanooga—Chattanooga Trust Co., J. H. Atwater, Secy.-Treas., plans six-story office building or department store at Market and Sixth Sts.; raze present building; 80x150 ft.; fireproof; \$150,000.

Tenn., Knoxville—City National Bank, Floyd Haun, Cashier, will remodel building and erect 3-story addition at rear; 60 ft. long; \$125,000; marble stairway to basement of bank; 2500 safety deposit boxes; interior finished in Tennessee marble.

Tenn., Memphis—Columbian Mutual Life Assurance Society, Lloyd T. Binford, Prest., will erect 22-story office building, Court Ave. and Main St.; \$1,000,000; Gothic renaissance architecture; terra cotta facing; tower and mansard roof finished in flat tile; 4 elevators; electric ventilators; steam vapor system heat; Boyer-Baum & Co., Archts., Syndicate Trust Bldg., St. Louis. (Lately noted.)

Tex., El Paso—Dr. Roderic O'Connor, San Francisco, purchased site at Myrtle Ave. and N. Florence St. and plans \$200,000 physicians' and surgeons' office building.

Tex., Fort Worth—D. F. Minney, 401 Cotton Exchange Bldg., will remodel Worth Hotel for offices; 5 stories; 100x95 ft.; mill construction; contract let for elevator; \$750; bids opened about Sept. 25. (Lately noted.)

Va., Abingdon—First National Bank, J. W. Bell, Prest., will erect building.

Va., Stony Creek—Bank of Stony Creek, B. F. Jarratt, Cashr., will erect building; \$25,000 to \$30,000; 23x63 ft.; 1 story; 20-ft. ceiling; limestone front; brick; fireproof roof; concrete and hardwood floors; probably Delco lights; metal ceilings; wire glass; steel sash and trim; vaults; ventilators; vault lights; Fred A. Bishop, Archt., Petersburg. (See Jch. Wanted—Bank Fixtures; Vault Door.)

Churches.

Ark., Tex., Texarkana—Central Church of Christ, Rev. J. E. Wainwright, Pastor, will erect \$10,000 brick building.

Ga., Hartwell—Cokesbury Methodist Church, Rev. Mr. Rodgers, Pastor, will rebuild burned structure in Hart County; \$15,000; brick.

Ga., Macon—Cherokee Heights Baptist Church, Dr. W. H. Sledge, Pastor, will erect \$10,000 Sunday school addition.

Md., Baltimore—First Baptist Church, Dr. J. E. Hicks, 1106 W. Lafayette Ave., and Dr. F. F. Briggs, 3608 Duvall Ave., Pastors, will erect buildings, Liberty Hghts. and Thornton Aves.; \$250,000; 3-story Sunday school building, \$100,000; 1-story and basement church and 3-story parsonage; will erect former building first, working drawings to be completed in few weeks; Clyde N. Friz and Nelson Friz, Archts., Lexington Bldg.

Miss., Jackson—Baptist Church will erect \$250,000 building; Webb Overstreet, Archt.

N. C., Charlotte—West Avenue Presbyterian Church, D. H. Johnston, Chrmn., Bldg. Comm., will erect brick building.

N. C., Winston-Salem—Eighth Street Baptist Church will erect \$15,000 building. Address The Pastor.

Tenn., Chattanooga—Missionary Ridge Presbyterian Church, Rev. T. E. P. Woods, Supply Pastor, McCallie School, plans \$75,000 church and Sunday school, probably McCallie Ave. and Kyle St.

Tenn., Knoxville—First Baptist Church, Jos. P. Gaunt, Chrmn., Bldg. Comm., receives bids until Oct. 9 to erect building, W. Main Ave. and Walnut St.; \$300,000; brick and Indiana limestone; terra cotta trim; auditorium to seat 900; gymnasium and swimming pool; Dougherty & Gardner, Archts., Stahlman Bldg., Nashville. (Lately noted.)

Tenn., Memphis—Union Avenue Methodist Church, A. E. Jones, Chrmn., Bldg. Comm., will erect auditorium at Union and Cooper

Sts.; Ionic design; brick; Bedford stone trim; art glass windows; auditorium to seat 1500; pipe organ; Hubert T. McGee, Archt., Simitar Bldg. (Lately noted.)

Tex., Bartlett—First Baptist Church, P. M. Curry, Pastor, will not erect building this year as lately reported.

Tex., San Antonio—St. Mary's Catholic Church, Father A. C. Dusseau, Pastor, will erect building, St. Mary's and College Sts.; about \$350,000; 80x180 ft.; F. B. Gaenslen, Archt., Alamo Bank Bldg. (Lately noted.)

Tex., San Antonio—St. Patricks Church, Father Parnell, will rebuild church and rectory destroyed by fire.

City and County.

Fla., Plant City—City Hall, etc.—City, W. H. Dorrance Clk., will erect city hall; \$35,000 bonds voted; fire dept. in building; 2 stories; brick; B. C. Bonfoey, Archt., Tampa. (Previously noted.)

Ky., Bellevue—Administration Bldg.—City votes in fall on \$40,000 administration building. Address The Mayor.

Md., Baltimore—Police Sub-station—Board of Awards, Mayor Wm. F. Broening, Prest., City Hall, receives bids until Oct. 4 to erect police sub-station, Belair Rd., lots 43-44-45, near Belview Ave.; drawings and specifications from office J. F. Crowther, Inspector of Bldgs., City Hall.

Mo., Chillicothe—Livingston County votes Nov. 7 on \$175,000 bonds for erection and maintenance of hospital. Address County Commsr.

Mo., Kansas City—Armory—Frank C. Seested is erecting \$100,000 armory on Main St. for 110th Engrs., Col. E. M. Stayton, Commdr.; 3 stories and basement; 90x160 ft.; bowling alley, locker rooms, shower baths, gymnasium, etc. (Lately noted.)

Mo., Washington—City Hall—City, J. J. Ernst, Mayor, will erect city hall; \$35,000 bonds available; 2 stories and basement; 50x70 ft.; semi-fireproof; brick; steel floor and roof; Boyer, Baum & Co., Archts., Syndicate Trust Bldg., St. Louis. (Lately noted.)

N. C., Henderson—Home—Vance County Commsr., P. E. Rowland, Register of Deeds, receives bids until Oct. 2 (extended date) to erect County Home; plans from Eric G. Flanagan, Archt.-Eng., Riggan Opera House. (Lately noted.)

Okla., Ponca City—Auditorium—City will erect 2 wings to auditorium for municipal depts.; 60x80 ft. each; fireproof; Layton & Smith, Archts., Oklahoma City.

Tex., Breckenridge—City Hall and Fire Sta.—City will erect city hall and fire station; David S. Castle, Archt., Radford Bldg., Abilene, and Dallas County State Bank Bldg., Dallas; bids opened Sept. 26; plumbing and electrical work let separately.

Courthouses.

La., Donaldsonville—Ascension Parish Police Jury Finance Comm., W. B. Stuart, Prest. receives bids until Oct. 3 for repairs to courthouse and jail; specifications from R. J. Chauvin Seey. Police Jury.

Dwellings.

Ala., Gadsden—J. H. Arnold will erect dwelling on Turrentine Ave.

D. C., Washington—Harry A. Kite will repair 1519-31 Massachusetts Ave., N. W.; also erect 24 dwellings, 231-57 16th St. S. E.; \$144,000; 2 stories; brick; owner builds.

D. C., Washington—H. L. Thornton will erect 3 dwellings, 600-2-6 Aspen St., N. W.; \$13,000; 2 stories; frame; owner builds.

Fla., Miami—John C. Williams Corp. will

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

erect \$10,000 two-story dwelling, N. E. 27th St.

Fla., Tampa—L. C. Edwards will erect \$10,000 dwelling, 1401 Bayshore Blvd.

Ga., Perry—Moore Lumber Co. will erect 2 dwellings on Swift St.

Ga., Perry—S. L. Norwood, Jr. will erect dwelling on Ball St.

Ga., Perry—G. C. and S. A. Nunn will erect dwelling on Ball St.

La., New Orleans—Frank Djeth, Jr. will erect \$15,000 dwelling, City Park Ave. and Bernadette St.; Spanish type; 1-story front; 2-story rear; stucco; Herbert J. Betzer, Archt.

La., Shreveport—Dr. A. B. Moise plans \$20,000 dwelling and garage, Fairfield Ave.; 2 stories; hollow tile and stucco.

Md., Baltimore—Clarence O. Downes & Co., 3122 Birkshire Rd., Hamilton, will erect 9 dwellings, Woodberry and Maple Aves.; 2 stories; brick; 13.9x45 ft.; brick; slab roofs; wood floors; pipeless furnace heat; \$28,800; C. O. Downes, Archt.; owner builds.

Md., Baltimore—Harrison S. Phillips will erect 3 one-story bungalows and garages, Hilldale and Haddon Aves.; 26x28 ft.; also 3 two-story cottages, Montgomery and Haddon Aves.; 28x28 ft.; all frame; slate roofs; steam heat; \$20,000; George Wessel, Archt., 2752 Winchester St.; owner builds.

Md., Baltimore—Sterling Realty Co., 11 E. Fayette St.; 13 bungalows, 5100-10 and 5112-24 Belleville Ave.; 1 story; frame; 26x31 ft.; asphalt shingle roofs; steam heat; \$20,000; George Wessel, Archt., 2752 Winchester St.; owner builds.

Md., Rockville—Rockville Development Co., Inc., Geo. E. Lewis, Secy., will erect dwellings; various sizes and types; ordinary construction; plans and construction by owner.

Miss., Tupelo—Judge Geo. T. Mitchell will erect \$40,000 dwelling; brick; stone trim; tile roof; 71-ft. tile terrace; solarium, swimming pool and shower on first floor; built-in bookcases, tile baths, etc.; cedar room in attic; brass and copper plumbing; Walter R. Nelson, Archt., Memphis, Tenn.

Mo., Kansas City—R. N. Eaton will erect 6 dwellings, 7032-36-40-44-48-52 The Pasco; \$2000. each.

Mo., Kansas City—E. M. Oxley, 1713 E. 55th St., will erect 2 dwellings, 5547 Charlotte St. and 4944 Westwood Rd.; \$8000 each; 1 story and basement; 36x52 ft.; stucco; day labor.

Mo., Kansas City—Agee-Block Home Investment Co. will erect eight \$4000 dwellings, 403-17 Lawn Ave.

Mo., Kansas City—Hayes & McKeever will erect two \$5000 dwellings, 203-05 W. 66th St. terrace.

Mo., Kansas City—Russell Land Co. will erect eight \$2000 dwellings, 3401-17 Mersing-ton Ave.

Mo., St. Louis—Jos. P. Parkes, 6632 Washington Blvd., plans residence on McKnight Est., Clayton Rd. near McKnight Rd., St. Louis County.

N. C., Asheville—Curtis Bynum, Prest., Carolina Creamery Co., will erect \$20,000 dwelling in Grove Park; 2 stories, basement and attic; fireproof; French design; tile walls; steel joist frame; variegated slate roof; oak floors; Ronald Greene, Archt.; plans not complete. (Lately noted.)

N. C., Blowing Rock—J. N. Williamson, Jr., Burlington; \$20,000 mountain house; stone and frame; hot air duct heating; plumbing, inclinator, ice machine, garage and servants' house; Herbert B. Hunter, Archt., High Point.

N. C., Charlotte—Queen City Realty Co. will

erect 6 dwellings, 210-13, 305-06-07 Walnut St. and 207 The Plaza; 5, 6 and 8 rooms; \$17,000.

N. C., Charlotte—J. L. Wiggins will erect \$12,000 dwelling, 902 East Blvd.; brick; 8 rooms; Louis H. Ashbury, Archt.; also 5-story dwelling on Lennox Ave.; \$5000; J. W. Stewart, Contr.

N. C., Greensboro—H. W. Clendenin & Son purchased lots in West Park Terrace development and plan to erect dwellings.

Ola., Oklahoma City—Jack Gill will erect \$10,000 brick dwelling and garage, 312 W. 17th St.

Ola., Oklahoma City—Clay Donovan will erect \$13,000 brick dwelling and garage, 1121 W. 21st St.

Ola., Tulsa—Robt. E. Adams and W. Frank Walker purchased 50 lots in Weaver addition, and will erect 50 cottages and bungalows; \$6000 to \$8000 each.

Tex., Dallas—D. V. Harrington will erect \$15,000 dwelling, 6016 Gaston Ave.; 8 rooms; brick veneer.

Tex., Dallas—A. C. Bullman will erect \$10,000 dwelling, 2718 South Boulevard; 9 rooms; brick veneer.

Tex., Dallas—Mike H. Thomas will not erect residence as lately reported.

Tex., Houston—D. J. Harrison will erect \$15,000 dwelling, Caroline St. and Blodgett Ave.; stucco.

Tex., San Antonio—Milton Michael will erect dwelling and garage on Terrell Hills; hollow tile and stucco; 30-ft. concrete pile foundation; Smith & Kelly, Archts.-Contrs.

Tex., San Antonio—R. A. Richey, Richey & Casey, 321 St. Mary St.; \$25,000 dwelling, Kingshighway near Belknap St.; 10 rooms; brick; Adams & Adams, Archts., Gibbs Bldg.; owner builds; construction begun. (Lately noted.)

Tex., San Antonio—H. C. Thorman will erect 3 frame dwellings, Grosbeck St. near Whittier St. and 1 on E. French Pl.; also frame building, University Ave.; total \$11,000.

Va., Richmond—Granby Building Corp. will erect 3 brick dwellings, 3113-15-17 W. Main St.; \$13,500.

W. Va., Charleston—Dr. G. H. Barksdale will erect \$11,000 dwelling, 513 Nancy St.

W. Va., Charleston—H. Gordon will erect \$18,000 dwelling, 1614 Virginia St.

Government and State.

Md., Edgewood—Constructing Quartermaster, Aberdeen Proving Grounds, receives bids until Sept. 30 to construct 20 frame stables at Edgewood Arsenal; 30x40 ft., each for 52 horses; frame; prepared roofing; clay and concrete floors; plans and specifications from offices Quartermaster at site or Constr. Quartermaster, Aberdeen.

Md., Edgewood—Officers' Quarters—Constructing Quartermaster, Aberdeen Proving Grounds, receives bids until Oct. 18 to construct 20 sets of officers' quarters at Edgewood Arsenal; six 67x40 ft., one 67x51 ft., thirteen 60x38 ft., hollow tile and stucco; slate or asbestos shingle roofs; edge-grain pine and concrete floors; hollow fireproof and interior tile; steam heat; plans and specifications from Quartermaster's office at site or from Constr. Quartermaster, Aberdeen.

Hospitals, Sanitariums, Etc.

Ala., Tuscaloosa—Alabama Insane Hospital, W. D. Partlow, M. D., Supt., will erect 2 reception wards at Bryce Hospital; \$75,000 each; fireproof; D. O. Whildren, Archt., Title Bldg., Birmingham; bids opened about Oct. 1. Address Supt. (Lately noted.)

N. C., Winston-Salem—Methodist Children's Home Board of Trustees will erect \$50,000 hospital; also plan dormitory to accommodate 25. Address Rev. Chas. A. Wood, Supt.

Tex., Temple—Dr. J. M. Woodson receives bids until Oct. 14 to erect 3-story brick hospital building, 3rd St. and Avenue G.; fireproof; 86x110 ft.; separate bids for heating, plumbing and electrical work; plans and specifications from Milton W. Scott & Co., Archts., Waco. (Lately noted.)

W. Va., Charleston—Mountain State Hospital, Co., Incptd. at \$100,000, R. H. Walker and others, will erect hospital on Virginia St.

Hotels.

Fla., Sarasota—Chamber of Commerce is promoting \$1,000,000 hotel; plans provide structure of 5 wings, each containing 200 rooms; about 300 rooms to be erected at present; plans ready about Dec. 1; Wm. G. Krieg, Hetherington & Son, Archts., 128 W. Washington St., Chicago. (Lately noted.)

Fla., Miami—H. S. Duncan leased Halcyon Hotel and will install heating plant, elevator, ventilating system, redecorate, and erect 36 bath rooms.

Ky., Mayfield—Hotel Hall, Clyde Winslow, Mgr., will improve building; \$30,000.

La., Springhill—Pine Woods Lumber Co., Ltd., J. F. Giles, Prest., will erect \$25,000 hotel; 49x142 ft.; frame; Witt, Seibert & Halsey, Archts., Texarkana, Ark.; owner builds. (Lately noted.)

Miss., Yazoo City—Chamber of Commerce is promoting erection of \$125,000 hotel.

N. C., Burlington—J. R. Donnell, Greensboro, leased Piedmont Hotel and will remodel and erect 30-room addition.

Va., Old Point—F. W. Darling, Hampton, J. S. Kimberly, Nelson S. Groome and others are promoting rebuilding of Chamberlin Hotel; \$2,000,000.

Miscellaneous.

Ala., Huntsville—Clubhouse—Byrd Spring Rod and Gun Club will erect clubhouse.

Ala., Mobile—Undertaking—Frank Roche will remodel 2-story brick residence, Government and Franklin Sts., for funeral home.

La., New Orleans—Exhibit—Mercantile Service Co., Inc., Merserco Bldg., will erect building.

Mo., Kansas City—Stable—City Ice Co., Carl Gray, Mgr., will erect stable; 2 stories and basement; 74x137 ft.; brick, stone and reinforced concrete; Archer & Gloyd, Archts., Reliance Bldg.

Okla., Picher—Sheds—Picher Mining Co. will rebuild sheds lately noted burned.

N. C., Crestmont—Clubhouse—Great Smoky Mountain Club, Inc.; Gen. Theo. F. Davidson, Prest.; Jas. E. Rumbo, V.P.; N. Buckner, Secy.-Treas.; all Asheville; will construct clubhouse, 35-acre lake, etc.

Railway Stations, Sheds, Etc.

Fla., Fort Myers—Atlantic Coast Line R. R., J. E. Willoughby, Ch. Engr., Wilmington, N. C., will erect passenger station; Spanish design; 63x20 ft.; hollow tile and stucco.

Fla., West Palm Beach—Florida East Coast Ry. Co., H. N. Rodenbaugh, Ch. Engr., St. Augustine, will erect platform and covered sheds at Canalport.

Ky., Covington—Louisville & Nashville R. R., W. H. Courtenay, Chief Engr., Louisville, will erect freight station; \$100,000; brick; J. E. Haley, Supervising Archt. Louisville, Tenn., Chattanooga—Tennessee, Alabama & Georgia R. R., C. E. James, Mgr., will erect passenger and freight depot, Newby and 10th Sts.; E. E. Betts, Engr.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Schools.

Ala., Mobile—Mobile County School Comrs., S. S. Murphy, Supt., will erect grammar school in Burned Area; separate bids opened Sept. 27 for general construction, heating and plumbing; Wm. H. Marsh, Archt., 82 St. Francis St. (Lately noted.)

Ala., Gadsden—Board of Education, J. H. Disque, Chrmn., will erect high school, 12th St.; \$200,000; 240x190 ft.; A. D. Simpson, Archt. (Previously noted.)

Ga., Atlanta—Board of Education, J. W. Landers, City Purchasing Agt., receives bids until Oct. 6 on general contract, plumbing, heating and electric work for Fraser Street School; Haralson Bleckley, Archt.; Faith Street School; W. J. J. Chase, Archt.; Storrs and Houston Street School; Arthur Neal Robinson, Archt.; Formwalt Street School; DeFord Smith, Archt.; plans and specifications from office A. Ten Eyck Brown, Supervising Archt., Forsyth Bldg. (Lately noted.)

Ga., Macon—Bibb County voted \$500,000 bonds to erect boys' high school, Virgil Powers School and other improvements; C. H. Bruce, Supt. of Education. (Lately noted.)

Ga., Sylvester—Consolidated Dist. School Trustees will erect schools; \$50,000 bonds voted.

Ky., Frankfort—Good Shepherd Church, Rev. Edw. G. Klosterman, Pastor, 208 St. Clair St., will erect school; 2 stories and basement; fireproof; Crowe & Schulte, Archts., Main and Court Sts., Cincinnati, O.; bids opened Sept. 22. (Lately noted.)

La., Covington—St. Tammany Parish School Board, Elmer E. Lyon, Secy., receives bids until Oct. 6 to erect grade school at Abita Springs; 1 story; 65x55 ft.; 6 classrooms and auditorium; brick and mill construction; plans and specifications at office Wm. T. Nolan and Peter Torre, Jr., Archts., Canal Commercial Bldg., New Orleans.

La., Downsville—Union Parish Board of Education, Farmerville, will erect high school.

La., Hammond—School Board will erect high school; \$100,000 bonds voted. (Lately noted.)

Md., Baltimore—Board of Awards, Mayor Wm. F. Broening, Prest., receives bids until Oct. 18 to erect Northeast Junior High School in Clifton Park; \$700,000; 3 stories and basement; 400x180 ft.; 30 classrooms; assembly hall to seat 2000; Josias Pennington, Archt., Professional Bldg. (Previously noted.)

Md., Baltimore—Board of Awards, Mayor Wm. F. Broening, Prest., will erect Jackson Place Elementary School; accommodate 1000 pupils; Theo. Wells Pietsch, Archt., American Bldg. (Previously noted.)

Md., College Park—University of Maryland, Dr. A. F. Woods, Prest., rejected bids to erect \$100,000 gymnasium, auditorium and armory and \$40,000 stadium; former, 3 stories; brick, steel and terra cotta; auditorium to seat 1500; concrete stadium to seat 3500; Flournoy & Flournoy, Archts., 306 St. Paul St.; plans revised and new bids Sept. 22. (Lately noted.)

Md., Ridge—Cardinal Gibbons Institute Bd. of Trustees, Archbishop Michael J. Curley, Prest., Baltimore, will erect school for colored students on 200-acre farm on Smiths Creek, near Ridge.

Miss., Cleveland—Bolivar County School Board will erect building; Webb Overstreet, Archt., Jackson.

Mo., Dadesville—Board of Education will erect \$300,000 high school; 2 stories and basement; 60x100 ft.; Earl Hawkins & Co., Archts., McDaniel's Bldg., Springfield; owner builds.

Mo., Grimmet—School Board will erect building; stucco.

N. C., Bridgeton—School Trustees will erect building; \$25,000 bonds voted.

N. C., Rocky Mount—School Board, W. S. Wilkinson, Chrmn., will erect North Rocky Mount School; \$50,000; 150x90 ft.; brick; tar and gravel roof; wood floors; Benton & Benton, Archts., Wilson; bids opened Sept. 22. (Lately noted.)

N. C., Washington—City votes Oct. 17 on \$300,000 bonds to erect 2 schools. Address City School Trustees.

Okl., Cyril—School Board will erect consolidated school; \$25,000 bonds voted.

S. C., Cope—School Board, S. B. Cope, Chrmn., Bldg. Comm., will erect \$20,000 building.

S. C., York—School Board, E. A. Montgomery, Supt., will erect \$10,000 building.

Tenn., Celina—Clay County Quarterly Court will consider \$50,000 school bond issue at October term; H. G. Maxey, County Supt. of Schools.

Tex., Brady—School Dist. Trustees will erect \$40,000 building; 119x75 ft.; 2 stories; brick; fireproof stairs; H. F. Kuehne, Archt., Littlefield Bldg., Austin. (Lately noted.)

Tex., Brownsville—Board of Education will erect school at Stuart; \$40,000 bonds voted.

Tex., Dallas—Buckner Orphans Home, H. F. Buckner, Supt., will erect high school; \$150,000.

Tex., Pleasanton—Board of Education will erect school; \$20,000 bonds voted.

Va., Forest Depot—New London Academy, Jno. P. Adkins, Mgr., Lynchburg, will erect 2-story agricultural school; \$10,000 to \$12,000; 2 stories; hollow fireproof tile; Carnal & Johnston, Archts., Richmond; bids opened Sept. 23. (Lately noted.)

Va., Richmond—St. Catherine's School for Girls, Rev. E. L. Woodward, Dean, Dominion Trust Bldg., will erect \$75,000 building, Westhampton; 3 stories; 88x40 ft.; fireproof; brick, concrete and wood floors; steel columns; slate roof; low pressure steam heat; Hobart Upjohn, Archt., Grand Central Terminal, New York; Clairborne & Taylor, Richmond, are lowest bidders. (Lately noted.)

W. Va., Huntington—City votes in November on school bonds not to exceed \$700,000; Jno. G. Graham, Supt. of Schools.

Stores.

Ala., Collinsville—Mary Collins will erect building to replace structure lately noted burned.

Ala., Florence—Griffith Grocery Co., is reported to erect 40-ft. extension to building on E. Tennessee St.; 2 stories.

Fla., Plant City—A. B. Critchley will erect one and two-story building on Main St.; 34x60 ft.

Fla., St. Petersburg—C. W. Hewett will erect \$10,000 store; 1 story.

Ga., Atlanta—Frank T. Pike will erect 1-

story brick store, 383 McLendon St.; \$15,000.

Ky., Paintsville—Jas. W. Turner will erect two 2-story stores and apartments.

La., Shreveport—L. F. Kern will erect 2-story brick building, Fairfield Ave.; \$23,000.

La., Shreveport—Rendall Estate will erect \$70,000 building, 601-9 Texas St.; 2 stories; fireproof.

Mo., Green City—Allen D. Morrison will erect 2 business buildings.

Mo., North Kansas City—North Kansas City Developing Co.; store and office building, Swift Ave. and Armour Rd.; 2 stories and basement; 54x134 ft.; brick and stucco; Keene & Simpson, Archts., Reliance Bldg.; Bickel Constr. Co., Contr., Mutual Bldg., both Kansas City.

Tex., Dallas—J. W. Ridgeway will erect \$18,500 store, 802 Jefferson Ave.; 2 stories; brick.

Tex., Dallas—G. W. Gibbs will repair building at 1713 Elm St. damaged by fire; \$15,000.

Tex., Houston—Miss L. S. Koehler will erect \$20,000 store on Congress St. between Fannin and San Jacinto Sts.; reinforced concrete and brick.

Tex., Houston—J. B. Johnston will erect \$25,000 store and apartment building, Dallas Ave. and Smith St.; 2 stories; concrete.

Tex., San Antonio—Mrs. Bertha R. Fike will erect brick store, Soledad St. between Pecan and Armistead Sts.; Jno. M. Marriott, Archt.; bids opened Sept. 18.

Tex., San Antonio—Travis Investment Co. will erect 19 brick stores on Main Ave.; Herbert S. Green, Archt.; Henry Schoenfeld is lowest bidder at \$39,700.

Tex., Waco—Stratton-Stricker Furniture Co. will erect building Eighth and Austin Sts.; 4 stories and basement; 50x65 ft.; plate glass front; one passenger and one freight elevator.

W. Va., Logan—Eli Abramson and associates will erect 1-story fireproof stores on Stratton St.

Theaters.

La., Hammond—J. S. Badnett, New Orleans; \$35,000 theater, E. Thomas St.; 140x80 ft.; Eugene McCormick, Archt., Brookhaven, Miss. (Lately noted.)

Mo., Kansas City—Geo. Boden will erect \$30,000 motion picture theater, 3540-42 Indiana Ave.; 2 stories; brick.

Warehouses.

Md., Baltimore—Baltimore Storage Co., will erect warehouse, Charles and 26th Sts.; 90x50 ft.; brick; fireproof; concrete floors; slag roof; hot water heat; Wyatt & Nolting, Archts., Keyser Bldg.; bids opened Sept. 28.

Tex., Dallas—Mrs. Jno. B. Louck will erect \$10,000 warehouse, 1105-07 Patterson Ave.; 2 stories; brick.

Va., Appomattox—T. W. Moses & Co. will erect tobacco warehouse.

Va., Richmond—Lucille N. Miller will erect \$20,000 tobacco warehouse; 7th and Morgan Sts.; frame and galvanized iron.

BUILDING CONTRACTS AWARDED**Apartment Houses.**

Fla., Miami Beach—S. M. Tatum, Tatum Bros., Miami; \$39,740 building, 9th St. and Ocean Dr.; cement block and stucco; Spanish finish; 12 apartments; Henry LaPointe, Archt., Miami; A. L. Sammons, Contr., Miami Beach.

Ga., Atlanta—Real Estate Investment Corp., Robert Greer, Prest.; \$400,000 building, Peachtree and Sixth Sts.; Georgia architect-

ture; reinforced concrete and steel; fireproof; brick; limestone base; stone trim; soundproof floors and walls; cafe to seat 80; 50 suites of from 1 to 4 rooms; Hentz, Reid & Adler, Archts.; Candler Bldg.; Adair & Senter, Contrs.

Md., Baltimore—Gwynnwood Apt. House Co., Harold C. Hann, Prest.; \$125,000 building, Windsor Hills; irregular dimensions; 3 units of one, two and three stories; stucco and hollow tile; slate roof; tile, terrazzo and

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

wood floors; vapor-vacuum heat; Theo. Wells Pletsch, Archt., American Bldg.; J. L. Robinson Construction Co., Contr., Carrollton and Lafayette Aves.

Tex., Houston—John B. Ashe; \$37,000 store and apartment building; fireproof; 57x78 ft.; 2 stories; concrete, brick and tile; asbestos built-up roof; edge-grain pine, terrazzo and concrete floors; hot water heat, \$2500; lighting, \$1100; Giesecke & Harris, Archts., Littlefield Bldg., Austin; Tom Telep- sen, Contr., Houston.

Tex., San Antonio—E. L. Ditmar; \$14,600 building; 2 stories; frame; C. B. Schoeppi & Co., Archts., Gunter Bldg.; B. B. Brayer, Contr.

Bank and Office.

Tenn., Knoxville—Bankers' Trust Co., T. A. Wright, Prest.; remodel first floor and erect 2 additional stories to building on Gay St.; \$54,000; Tennessee marble; concrete and hardwood floors; gravel roof; fireproof interior walls; wire glass; steel sash and trim; 30x140 ft.; install elevator; A. B. Baumann & A. B. Baumann, Jr., Archts.; A. R. McCurry, Contr.

Churches.

Md., Baltimore—Huntington Baptist Church; \$20,000 building, 31st and Barclay Sts.; 40x101 ft.; slate roof; steam heat; brick and stone; Herbert L. Cain, Archt., Richmond, Va.; Southern Steel Construction Co., Contr.

Mo., Laredo—Christian Church; \$12,500 building, exclusive of heating, lighting and plumbing; Robertson & Layton, Contrs.

Mo., St. Louis—Sixth church of Christ, Scientist; \$250,000 building, Natural Bridge Ave. opposite Fair Grounds Park; 100x130 ft.; 64 ft. high; Ionic columns; brick; Bedford stone or terra cotta trim; granite steps; 4 stairways to auditorium to seat 1000; Sunday school on ground floor to seat 600 to 700; slate or tile roof; wood floors; Wedemeyer and Nelson, Wainwright Bldg., St. Louis, and George Foote Dunham, Northwest Bank Bldg., Portland, Ore., Archts.; Dickie Construction Co., Contr., Syndicate Trust Bldg., St. Louis.

N. C., Winston-Salem—Centenary Methodist Church; remodel auditorium and erect Sunday school annex, Trade and Sixth Sts.; 60x100 ft.; fireproof; 3 stories; steel, concrete and brick; limestone base; terra cotta trim; roof garden; buildings connected by subterranean and ground floor passages; W. C. Northup, Archt.; Fogle Bros., Contrs.; Crawford Mill Supply Co., heating.

Tex., Port Arthur—Trinity M. E. Church, South; \$80,000 building; auditorium with balcony, 57x80 ft.; 3-story Sunday school building, 37x130 ft.; concrete frame; steel trusses; tile roofs; concrete, hardwood and sanitary floors; vapor steam heat (oil burning), \$6000 to \$7000; steel sash and trim; folding partitions; Paul G. Silber & Co., Archts.; Kirkwood & Wharton, conduit work; both San Antonio; H. W. McCord, Contr., Port Arthur.

Va., Norfolk—Cumberland St. Methodist Church, Rev. E. L. Bain, Pastor; \$25,000 brick building, Lafayette Residence Park; E. E. Weddle & Co., Contrs.

W. Va., Welch—Emanuel Congregation \$15,000 to \$20,000 synagogue, McDowell St., Riverview addition; 3 stories; brick first story, frame and Kellastone stucco for upper stories; 30x39 ft.; Wysong & Jones, Archts., Princeton; Charles Smithey, Contr., Welch.

City and County.

Tex., Hillsboro—Homes—Commissioners Court; superintendent's dwelling and pa-

pers' home; about \$10,000; J. O. Galbraith, Archt.; G. L. Hite Contr.

Dwellings.

Ark., Pine Bluff—W. L. Toney; \$10,000 dwelling, 15th and Elm St.; brick veneer; Quinn & Kelsoe, Contrs.

D. C., Washington—J. W. Brawner; 10 dwellings, 2321-39 3rd St., N. E.; \$40,000; 2 stories; brick; H. W. Felvey, Contr.

Fla., Bradenton—J. K. Singletary; 4 bungalows on Virginia Drive; tile baths; sleeping porch; built-in features; \$3600 to \$4750 each; Johnson & Fonda, Archts.; Argo & Chapman, Contrs.

Fla., Daytona—Geo. M. Faith, Daytona Beach; \$11,000 dwelling, Ridgewood Ave. and Cedar St.; stucco; ordinary construction; Fuquay & Gheen, Inc., Contrs., Daytona Beach.

Fla., Daytona—J. T. Nelson; 2 Spanish type dwellings, Ridgewood Ave. and Rowlander Pl.; \$12,000; frame and stucco; composition and tile roofs; Fuquay & Gheen, Inc., Contrs., Daytona Beach.

Fla., Lake Wales—Roger W. Babson, Welllesley Hills, Mass.; dwelling at Mountain Lake Club, Fredk. S. Ruth, representative; G. A. Miller, Contr., Tampa.

Fla., Lake Wales—C. F. Edgerton, Concord, Mass.; dwelling at Mountain Lake Club, Fredk. S. Ruth, representative; General Building Co., Contr.

Fla., Lake Wales—H. T. B. Jacquelin, Jacquelin & DeCoppet, New York; dwelling at Mountain Lake Club; General Building Co., Contr.

Fla., Lake Wales—Fredk. S. Ruth; dwelling at Mountain Lake Club; General Building Co., Contr.

Fla., Lake Wales—Edward Woodman, Portland, Mass.; dwelling at Mountain Lake Club, Fredk. S. Ruth, representative; General Building Co., Contr.

Fla., Miami Beach—J. C. Penney; additions to Hinckle house on Belle Isle; \$60,000; erect third floor; screened-in porch; French doors; carved stone pillars in den; 5 bathrooms, 2 boudoirs, kitchen, etc.; Sanquist & Snow, Contrs., Miami.

Fla., Orlando—Mrs. W. C. Temple, Winter Park; \$10,000 dwelling; E. D. Kenyon, Contr.

Fla., Palm Beach—Chas. H. Baker, Mohegan Lake, N. Y.; \$12,000 dwelling, Chilean Ave. and Hibiscus St.; H. C. Daniels, Contr.

Fla., West Palm Beach—Joseph Schupler; \$10,000 dwelling, Washington Rd. and Royal Palm Ave., Prospect Park; Vincent S. Hall, Contr.

Ga., Atlanta—L. W. Rogers Realty & Trust Co., has contract to erect brick dwelling, 431 Virginia Ave., Virginia Highlands sub-division; about \$10,000.

Ky., Sturgis—West Kentucky Coal Co.; 62 dwellings; 4 and 5 rooms; electric lights; water; contract let.

Md., Baltimore—J. Elmer Weisheit, 8 Light St.; 6 dwellings, Linden Ave. near York Rd., Cedarcroft; 24x28 ft.; 2 stories; frame; \$18,000; B. R. Sol, Contr.

N. C., Asheville—R. C. Davis, Central Bank & Trust Co.; \$15,000 dwelling, N. Liberty St.; 34x44 ft.; brick and stone; 8 rooms; W. J. East, Archt., Haywood Bldg.; J. W. M. Smith, Contr., Center St.

Okl., Tulsa—L. H. White, Box 1991; dwelling, 211 E. Jasper St.; 28x32 ft.; mill construction; A. C. Davis, Archt.-Contr.

Tex., San Antonio—J. B. Bowen; \$10,000 Colonial dwelling in Monte Vista Addition; 1 story; frame; C. B. Schoeppi Co., Archts., Gunter Bldg.; contract let.

Tex., San Antonio—J. H. Ragsdale; \$35,000 dwelling, Garraty and Eldon Rds.; Ernest Servener, Archt.-Contr.

Tex., Teague—Mrs. M. B. Thorp; dwelling; P. G. Silber & Co., Archts., San Antonio; Mr. McLean, Contr., Teague.

Hospitals, Sanatoriums, Etc.

Ark., Blytheville—R. S. Wilkes, Memphis, Tenn., has contract to erect hospital; 3 stories; brick and frame; 6 baths, X-ray, operating room, etc.; Dr. F. L. Husbands, Sup't, Hollywood.

Va., Richmond—Johnson-Willis Hospital; \$100,000 to \$200,000 building, Blvd. opposite Battle Abbey; Marcellus E. Wright, Archt.; Wise Granite & Construction Co., Contr.

Hotels.

Miss., Biloxi—Apperson Hotel Co.; remodel Hotel River; \$35,000; 3 stories; frame; Eric Johnson, Contr.

N. C., High Point—Geo. Penny and T. F. Wren; remodel Elwood Hotel; \$32,000; J. L. Crouse, Contr., Greensboro.

Tex., San Antonio—Travis Investment Co.; 10-story hotel, Main Ave. and Travis St.; 175 rooms; fireproof; reinforced concrete and brick; concrete floors and roof; low pressure steam heat, 2 boilers; 2 electric elevators; ornamental terra cotta; interior tile; metal doors; wire glass; mail chutes; vault lights; steel sash and trim; Herbert S. Green, Archt.; J. DePuy, Contr.

Miscellaneous.

La., New Orleans—Market—Peter Divona; \$18,000 market and residence, Adams and Panola Sts.; frame and stucco; W. T. Nolan, Archt., Canal Commercial Bldg.; Chas. W. Horton, Contr., 5655 Woodlawn Ave.;

Md., Baltimore—Convent—St. Joseph's Passionist Monastery, Frederick Ave. and Loudon Park; \$50,000 convent; 3 stories; 49.6x99.9 ft.; brick; slate roof; steam heat; Parker, Thomas & Rice, Archts., Union Trust Bldg.; Frainie Bros. & Haigley, Contr., 18 Clay St.

Railway Stations, Sheds, Etc.

Ark., Lake Village—Missouri Pacific R. R. E. A. Hadley, Ch. Engr., St. Louis; depot; contract let.

Tex., Wichita Falls—Wichita Falls & Southern Ry., R. W. Miller, Gen. Supt.; sheds to replace structures lately noted burned; 10x120 ft.; mill construction; H. M. McFarland, Ch. Engr.; W. M. Ross, Contr.

Schools.

Ala., Elba—City Board of Education; \$50,000 school; 40x100 ft.; 3 stories; fireproof; Geo. B. Rogers, Archt., Antwerp Bldg.; Owen Constr. Co., Contr., both Mobile.

Fla., Daytona—Volusia County Board of Public Instruction; \$52,000 addition to Daytona High School; 3 stories; 50x90 ft.; brick; E. A. Ehmann, Archt., Jacksonville; Fuquay & Gheen, Contrs., Daytona Beach.

Fla., Ocoee—County Board of Education, Orlando; \$31,978 school; F. E. Zep, Contr.

Ga., Atlanta—Board of Education; Northwest Junior High School; \$245,000; 3 stories and basement; hollow fireproof tile; tile and composition roof; hardwood and terrazzo floors; interior tile; metal doors; steel sash and trim; wire glass; ventilators; Mary Alger & Alger, Archts., Walton Bldg.; Donaldson & Pearson, Contrs.; also erect Pittsburg Colored Elementary School; \$151,729; G. Lloyd Preacher & Co., Archts., Healey Bldg.; A. G. Krebs Contracting Co., Contr.

Ga., Hahira—Board of Education, G. C.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

September 28, 1922.

MANUFACTURERS RECORD.

77

Miley, Secy.; 4-room addition to school; brick; Mr. Lawson, Contr.

Lawrenceville—Board of Education; \$27,000 school; brick; Arnold Constr. Co., Contr. Elberton.

La., Erath—Vermillion Parish School Bd. Ulysses Bernard, Prest., Abbeville; 22-room brick school; Geo. C. Honold, Archt., Abbeville; C. Oliver & Son, Contrs., Lake Charles.

La., New Orleans—Orleans Parish School Board, Danl. J. Murphy, Prest.; \$250,000 building, St. Claude and Alva Sts.; 2 stories and basement; 240x240 ft.; fireproof; 30 rooms; E. A. Christy, City Archt., 25 City Hall Bldg.; O. M. Gwin Constr. Co., Contr., Canal Commercial Bldg.

Miss. Poplarville—Board of Education; \$40,000 grammar school; Cecil O. Eure, Contr., Hattiesburg.

N. C. Fairmont—School Trustees, F. C. Jones, Secy.; \$60,000 high school; brick and frame; concrete and wood floors; gravel roof; steam heat; electric lights; 19 classrooms, study hall, auditorium and playroom; W. D. Harper, Archt., Florence, S. C.; Darlington Constr. Co., Contr., Darlington, S. C.

N. C. Meadows—Stokes County Board of Education, J. C. Carson, Supt., Germanton; \$10,000 school; 6 rooms and auditorium; frame; R. A. Hedgecock, Contr., Walnut Cove.

N. C. Pinnacle—Stokes County Board of Education, J. C. Carson, Supt., Germanton; \$20,000 school; 6 rooms and auditorium; brick; R. A. Hedgecock, Contr., Walnut Cove.

Tex., Burk Burnett—Board of Education; \$102,000 high school; brick and reinforced concrete; C. H. Page & Bro., Archts., Austin National Bank Bldg., Austin; Reed & Costley, Contrs., Wichita Falls; Tennison Bros., Dallas, heating, \$10,300; Hoffman & Co., Wichita Falls, plumbing, \$5500.

Tex., Clifton—Clifton College; \$45,000 ad-

ministration building; 101x69 ft.; 3 stories; brick and concrete; built-up asphalt roof; wood floors over concrete; stone trim; hot air heat; P. G. Silber & Co., Archts., Bedell Bldg., San Antonio; C. S. Oates, Contr., Fort Stockton, Tex.

Tex., Keren—School Board; high school; 2 stories; brick; auditorium to accommodate 650; H. O. Blanding, Archt., Corsicana; W. H. King, Contr., Dallas.

Tex., Lipscomb—School Board; \$18,000 building; 92x44 ft.; 1 story; brick and frame; Parker & Ritenberry, Archts., Amarillo; J. D. Stephens, Contr., Texline.

Va., Norfolk—City School Board, Dr. Chas. R. Grandy, Chrmn.; \$133,000 annex to J. E. B. Stuart School; 2 stories; 176x70 ft.; concrete and hollow fireproof tile; concrete slab, tar, felt and pitch roof; hardwood and concrete floors; interior tile; metal doors; Peebles & Ferguson, Archts., Law Bldg.; Miller Engineering Corp., Contr., 1012 Water St.

Stores.

Fla., Bradenton—Geo. B. Wallace, 609 Prospect Ave.; \$40,000 store and apartments; tile and brick; 128 ft. frontage; Tom Argo, Archt.; Argo & Chapman, Contrs.

Fla., Chipley—W. E. Coleman; 2 brick stores on S. 6th St.; W. J. Hall, Contr.

Fla., Pensacola—T. T. Wentworth, Jr.; brick store, Belmont and Davis Sts.; H. E. Franklin, Contr.

Fla., St. Petersburg—W. T. Baynard and Thorn Carpenter; \$15,000 business building, 9th St.; 1 story; 80x85 ft.; brick; Geo. Feltham, Archt.; Dillon & Wright, Contrs.

Fla., West Palm Beach—W. A. Weihe; \$10,000 store, Okeechobee Rd.; 2 stories; tile and cement; F. W. Blandford, Contr.

Ga., Augusta—Alexander Realty Co.; \$15,000 store, 1630 12th St.; frame; metal roof; R. E. Skinner, Contr.

Md., Baltimore—Wm. Beehler, Inc., 222 W. Lexington St.; repair store lately noted damaged by fire, at loss of \$10,000; R. B. Mason, Contr., 308 W. Madison St.

Mo., Kansas City—M. Berlan, 1509 Walnut St.; \$12,000 store; 1 story and basement; 55x78 ft.; brick and stone; H. M. Jacobs, Archt., 4421 Campbell St.; Rosenthal & Co., Contrs., Ridge Bldg.

N. C., Charlotte—Miller Van Ness Co.; \$22,000 store, Morehead and Tryon Sts.; 2 stories; 40x90 ft.; brick and frame; built-up roof; rift pine floors; W. H. Peeps, Archt.; E. H. Clement Co., Contr.

N. C., Charlotte—Dr. Brodie C. Nalle; \$12,000 store and apartment building, W. 3rd St.; brick; L. L. Hunter, Archt.; Carolina Co. Contr.

Tex., San Antonio—Mathis & Fordtran; remodel store at 210 W. Commerce St.; C. B. Schoepp Co., Archt-Contr., Gunter Bldg.

Tex., San Antonio—Max Richbrook; remodel store, N. Flores and Houston Sts.; \$10,000; C. B. Schoepp Co., Archt-Contr., Gunter Bldg.

Theaters.

Fla., Fort Pierce—R. N. Koblegard, Washington, D. C.; E. R. Minshall, Tulsa, Okla.; \$100,000 theater and business building; 2 stories; 6 storerooms; theater to seat 1400; reinforced concrete and tile; built-up asphalt roof; cement and wood floors; metal doors; wire glass; steel sash and trim; ventilators; Jno. N. Sherwood, Archt.; C. E. Cahow, Contr.

Mo., Kansas City—Elliott Theater, 704 Grand Ave.; remodel Grand Theater, 7th and Walnut Sts.; \$100,000; R. E. Peden Co., Archt., 945 New York Life Bldg.; E. P. McClure, Contr., Grand Theater Bldg.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Architectural Catalogs.—M. C. Parker, 811 Dan Waggoner Bldg., Fort Worth, Tex.—Mfrs. samples and catalogs from any concerns throughout the United States.

Bank Fixtures.—Bank of Stony Creek, B. F. Jarratt, Cashr., Stony Creek, Va.—Second-hand bank fixtures to furnish working space of about 19x22 ft.

Boiler.—Noble Coal & Lumber Co., Whick, Ky.—Prices on boiler for mining plant.

Bottles.—Lon Dickey Lumber Co., Fitzgerald, Ga.—To correspond with dealers in quart bottles.

Boiler (Water Tube).—McComb Ice Factory, V. G. Connor, Supt., McComb, Miss.—500 H. P. water tube boiler.

Bridge Construction.—State Highway Comm., Richmond, Va.—Bids until Oct. 10 for following bridges:

Over Beaver Creek; 113-ft. 4-in.; 3 reinforced concrete spans; 29,335 lbs. reinforcing steel; Project 170, Route 3, from Daniels Creek to Martinsville, Henry County.

Over North Fork Clinch River; Sta. 9-20; 82-ft. 6-in.; three 25-ft. clear reinforced concrete beam spans; 19-ft. roadway; 14,615 lbs. reinforcing steel.

Over South Fork of Clinch River; Sta. 30-25; 55-ft.; two 25-ft. clear reinforced concrete beam spans; 19-ft. roadway; 9720 lbs. reinforcing steel.

Over Sulphur Springs Branch; Sta. 34-45; 23-ft. 4-in.; 20-ft. clear reinforcing concrete beam span; 19-ft. roadway; 6260 lbs. reinforcing steel; all Project 256, Route 11, from Burkes Garden Sliding to Tazewell, Tazewell.

well County; plans, etc., on file, and from following Dist. Engrs.; Project 170, at Roanoke; 256, Bristol.

Bridge Construction.—Duval County Comr., Frank Brown, Clk., Jacksonville, Fla.—Bids until Oct. 2 for creosoted wood bridge over Christopher Creek on San Jose Blvd.; plans, etc. on file.

Bridge Construction.—Dunklin County Drainage Dist. No. 36, Kennett, Mo.—Bids until Oct. 4 for 5 timber highway and one reinforced concrete weir bridges; plans, etc., from County Clerk, and C. E. Smith & Co., Engrs., 2073 Railway Exchange Bldg., St. Louis, or Liberty National Life Bldg., Cape Girardeau, Mo.

Bridge Construction.—State Highway Dept., Tallahassee, Fla.—Bids until Oct. 2 to construct creosoted timber approaches to Dead River Bridge, near Tavares, Lake County; plans, etc. on file, from Div. Engr., Ocala, Fla., or from County Engr., Tavares; W. F. Cocke, State Highway Engr., Tallahassee.

Bridge Construction.—Beaufort County Road Coms., J. D. Bullock, Secy., Washington, N. C.—Bids until Sept. 29 for 405 ft. pile trestle bridge, with embankment approaches over Tranter's Creek, near Latham Station; twenty seven 15-ft. bents; 100 piles; plans, etc., from H. W. Rankin, Engr., Washington.

Bridge Construction.—State Highway Dept., Jefferson City, Mo.—Bids opened Sept. 22 for bridge over Jordan Creek, Sta. 803 plus 60, 40-ft. reinforced concrete thru girder span; 2 reinforced concrete abutments; 18-ft. roadway; Hickory County, Federal Aid Proj.

ect No. 86 A; H. P. Mobberly, Div. Engr., Woodruff Bldg., Springfield, Mo.

Building Material.—F. N. Funston, Mountain Grove, Mo.—Brick, cement, oak flooring and 12 iron support columns for building 44x110 ft.

Canners Supplies, etc.—Florida Growers, Inc., Carroll Dunscomb, Prest., Stuart, Fla.—Prices on canners supplies, fruit wraps, etc.

Bridge Repairing.—Elmore County Comr., L. C. Smith, Probate Judge, Wetumpka, Ala.—Bids until Oct. 9 for reflooring, scrapping and painting of the Coosa river bridge specifications on file or with State Highway Engr., Montgomery, Ala.

Building Material.—C. W. Smith, LaGrange, Ky.—Building material for 6-room house exclusive of framing lumber.

Canning Plant Machinery.—W. J. Ryan, Secy., Industrial Comm., Holdenville, Okla.—Prices on canning plant machinery.

Cans (Syrup).—Lon Dickey Lumber Co., Fitzgerald, Ga.—To correspond with mfrs. of qt., half gal. and gallon syrup cans.

Cans (Friction Top, Tin).—Norfolk Cleanser Co., Norfolk, Va.—To purchase friction top tin cans, capacity one pt. and 1 qt.

Cars (Mining).—Noble Coal & Lumber Co., Whick, Ky.—Prices on mining cars.

Cars (Industrial, Flat).—Universal Concrete Products Co., New Martinsville, W. Va.—Quantity of industrial flat cars, small size, 36-in. to standard gauge.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Catalogues.—Jas. L. Gatling, Archt., 616 Madison Avenue Bldg., Memphis, Tenn.—Manufacturers' catalogues.

Cement Block Machinery.—N. Q. Speer Sand Co., Goshen, Va.—Prices on mchly. for mfre. of cement hollow blocks.

Cement (Portland).—Panama Canal, A. L. Flint, General Purchasing Officer, Washington, D. C.—Bids until Oct. 7 to furnish 10,000 bbls. portland cement; blank forms and information (Circular 1497) on application to office of Panama Canal; Asst. Purchasing Agts. at New York, New Orleans and Fort Mason, San Francisco, Cal.

Compressor (Air).—Universal Concrete Products Co., New Martinsville, W. Va.—Small air compressor.

Compressors (Air).—H. W. Bennett, care of T. P. Labane, Hopewell, N. J.—To purchase second-hand air compressors, from 275 to 300 cu. ft.

Concrete Block Machinery.—Geo. T. Goodman, Ponchatoula, La.—Data and prices on mchly. to mfre. concrete blocks, fence posts, flower pots, etc. from sand; also information as to best mchly. to use.

Crane (Locomotive).—Roy C. Wayne Supply Co. (Mchly. Dealers), 608 W. Jefferson St., Louisville, Ky.—20-ton locomotive crane, 8 wheel, boom not less than 45 ft. long, clearance height under rear of frame not less than 4 ft. 8½-in.; cranes must be equipped with reversible engine.

Crane (Locomotive).—D. C. Elphinstone (Mchly. Dealers) 408 Continental Bldg., Baltimore, Md.—Locomotive crane for handling 2-yd. clamshell bucket on 60-ft. radius.

Crate and Box Material.—Florida Growers, Inc., Carroll Dunscob, Prest., Stuart, Fla.—Prices on crate and box materials.

Crusher and Screen.—Wilson-Hock Co. (Mchly. Dealers) City Point, Va.—Dealers prices on Rock crusher and screen for sand and gravel plant; jaw type crusher with opening approx. 11x26-in. desired.

Dike Construction.—Mississippi Levee Comrs., Greenville, Miss.—Bids until Oct. 2 to construct 45,000 sq. ft. concrete dike protection and 10,000 cu. yds. earth work; information on application; J. S. Allen, Chief Engr.

Doors (Fire).—H. J. Hetkes, 213 Surety Bldg., Galveston, Tex.—Corrugated roll fire doors; 9x12 ft.

Drainage Work.—City of Memphis, Texas, D. L. C. Kinnard, Secy.—Bids until Sept. 26 for drainage work, work consists of excavating drainage ditches, building wooden bridges, laying storm sewers and grader work, approx. 17,200 cu. yds. excavation; 35½ M ft. B. M. lumber; 820 ft. 24-in. vitrified pipe for storm sewer; 1160 ft. 24-in. corrugated pipe for culverts; installing 232 ft. 18-in. concrete pipe culverts; grading 31 city blocks on both sides; plans and specifications on file with City Secy. and Montgomery & Ward, Engrs., Wichita Falls.

Drawbridge Plans.—H. R. Rodes, Highway Engr., Vicksburg, Miss.—Invite plans of drawbridges from bridge companies, profile of stream furnished on request.

Electric Equipment.—Paul J. B. Murphy, City Mgr., Radford, Va.—Prices on transformer, wire, electrical supplies, valves, etc. for electric plant improvement to cost \$20,000.

Electrical Equipment.—Wilson-Hock Co. (Mchly. Dealers) City Point, Va.—Dealers prices on following equipment: 3 phase, 60 cycle, 2200 volt, 75 H.P., 900 RPM motor complete starting equipment; one 3 phase, 60 cycle, 2200 volt, 100 H.P., 1800 RPM motor with complete starting equipment suitable for mounting on same base and connecting directly to centrifugal pump; 30 to 40 KW,

110 volt, D.C. belt driven generator; motor generator set with 30 KW, 230 volt, D.C. generator directly connected to 3 phase, 60 cycle, 50 H.P., 2300 volt motor; also six 200 ampere, 2500 volt, D. & W. oil cut outs, used in good condition.

Electrical Equipment.—Tunica County Bd. of Supvrs., L. C. Shannon, Clk., Tunica, Miss.—Bids until Oct. 2 for electrical equipment for courthouse; plans and specifications from Frank P. Gates, Archt., Clarksdale, Miss.

Elevator (Electric).—Home Furniture Co., 851 3rd Ave., Huntington, W. Va.—To correspond with mfrs. of electric elevators.

Engines.—Wilson-Hock Co. (Mchly. Dealers) City Point, Va.—Dealers prices on 50 to 75 H.P. and 100 H.P. Corliss engine.

Engine (Hoisting).—D. C. Elphinstone (Mchly. Dealers) 408 Continental Bldg., Baltimore, Md.—Hoisting engine, double cylinder and double drum, 8x10 or larger.

Excelsior Cutting Machines.—W. S. Minor, Broadalbin, N. Y.—To correspond with mfrs. who will take over the mfre. of excelsior cutting machines.

Fertilizer.—Florida Growers, Inc., Carroll Dunscob, Prest., Stuart, Fla.—Prices on fertilizer.

Fixtures (Bath).—C. W. Smith, LaGrange, Ky.—Bath fixtures for \$3000 dwelling.

Floor Covering.—Tunica County Board of Supvrs., L. C. Shannon, Clerk, Tunica, Miss.—Bids until Oct. 2 for floor covering for courthouse; plans and specifications from Frank P. Gates, Archt., Clarksdale, Miss.

Flour Mill Machinery.—W. J. Ryan, Secy., Industrial Comm., Holdenville, Okla.—Prices on flour mill machinery.

Furniture and Fixtures (Courthouse).—Tunica County, Board of Supvrs., L. C. Shannon, Clerk, Tunica, Miss.—Bids until Oct. 2 for courthouse furniture and fixtures; plans and specifications from Frank P. Gates, Archt., Clarksdale, Miss.

Gravel.—Warren County, Board of Supvrs., Vicksburg, Miss.—Bids until Oct. 6 for necessary gravel for graveling city cemetery road, as sub-grades, from first to second gate; J. D. Laughlin, Clerk.

Heating Plant.—Clarence O. Downes, 3122 Berkshire Rd.—Estimates on heating, Eudowood Sanitarium, Pleasant Plains Farms, Md.

Hoists with Boilers.—H. W. Bennett, care of T. P. Labane, Hopewell, N. J.—To purchase contractors' portable hoists with boilers.

Levee.—Third Mississippi River District, Box 404, Vicksburg, Miss.—Bids until Oct. 2 to construct about 40,000 cu. yds. levee work; further information on application.

Lighting Plant.—C. W. Smith, LaGrange, Ky.—Lighting plant for \$3000 dwelling.

Limestone (Ocala).—Duval County Comrs., Chas. A. Clark, Chrmn., Jacksonville, Fla.—Bids until Oct. 2 to furnish 6000 tons Ocala limestone; further information on application.

Mechanical Equipment.—Treasury Dept., Supvg. Archt's Office, Washington, D. C.—Bids until Oct. 16 for mechanical equipment (exclusive of outside services, elevators, lif's and lighting fixtures) of an infirmary group of 4 buildings at U. S. Veterans Hospital, Chelsea, N. Y.; further information on application.

Miscellaneous Supplies.—Tunica County Board of Supvrs., Tunica, Miss.—Bids until Oct. 2 for following: courthouse furniture and fixtures; electrical equipment; marble tablets; bulletin boards and floor covering; dale, Miss.

Miscellaneous Supplies.—Panama Canal, A. L. Flint, Gen. Pur. Officer, Washington, D. C.—Bids until Oct. 13 to furnish oil handling pump; vegetable and meat cookers; manila rope; steel rivets and bolts; wire nails; electric motor fans; cable; wire; electric supplies; ammeter; coltmeter; steel conduit; flexible non-metallic conduit; automatic arc controls; vacuum tubes; mica; unions; spark plugs; wire grips; embossing press; closet bowls; valves; rubber tires, etc. Blank forms and information (Circular 1496) on application to offices of Panama Canal; Asst. Purchasing Agents, at 24 State St., New York; 611 Gravier St., New Orleans, La., and Fort Mason, San Francisco, Cal.; U. S. Engr. offices throughout the country.

Miscellaneous Supplies.—Panama Canal, A. L. Flint, General Purchasing Office, Washington, D. C.—Bids opened Sept. 26 to furnish plans with Frank P. Gates, Archt., Clarksdale, Miss., gold, bronze, floor dressing cement and primer, wood filler, aluminum leaf, paints and varnishes. Blank form and information (Circular 1495) obtainable from Panama Canal; Asst. Purchasing Agents at New York, New Orleans, La., also U. S. Engr. Offices through country.

Oil Burners.—C. E. Townsend, Box 869, Norfolk, Va.—Data and prices on oil burners for furnaces.

Paving.—Dist. Commrs., Washington, D. C.—Bids until Oct. 2 to lay 12,500 sq. yds. cement sidewalks; plans, etc. on file.

Paving.—City, R. S. McKinney, Engr., Mexico, Mo.—Bids until Oct. 2 to macadamize and curb Liberty St.

Paving.—Chas. Davis, Mayor, El Paso, Tex.—Bids opened Sept. 28 to pave Alta St. from Stevens Ave. to El Paso & Southwestern Ry.; plans, etc., from City Engr.

Paving.—A. P. Behrens, City Clk., Cape Girardeau, Mo.—Bids opened Sept. 25 to improve Good Hope St. from Sprigg to Pacific Sts.; plans, etc. on file.

Paving.—City Comrs., R. V. Taylor, Comr. of Streets, Mobile, Ala.—Bids opened Sept. 28 for concrete sidewalks and curb in Myrtle and Williams Sts.; 1112 sq. yds. one course 4-in. concrete; 2509 lin. ft. concrete curbing; plans, etc. from Wright Smith, City Engr.

Paving.—City, R. W. B. Hart, Director of Public Works, Lynchburg, Va.—Bids opened Sept. 22 for one course concrete sidewalks; M. B. Younger, Engr., No. 503 Krise Bldg., Lynchburg.

Paving.—City Board of Public Works, St. Joseph, Mo.—Bids until Oct. 19 to pave with concrete Lookout St. from Fleeman to Vassar, and grade and pave Alleys in block bounded by 20th, 21st, Edmond and Felix Sts.

Paving.—H. O. Leigh, City Secy., Huntsville, Tex.—Bids until Oct. 3 for paving; rock asphalt topping; concrete base; 9500 sq. yds. reinforced concrete; 4000 lin. ft. curbing; plans, etc., on file and from City Engr.

Paving and Sewer Construction.—City, Ernest Smith, Engr., Gadsden, Ala.—Bids opened Sept. 25 for street paving and sewer construction; 4981 sq. yds. asphaltic concrete paving; 275 lin. ft. curb and gutter; 222 sq. yds. sidewalk; 140 lin. ft. 4-in. sewer laterals; plans, etc., on file.

Paving and Sewer.—City of Houston, Tex., O. F. Holcombe, Mayor.—Bids until Sept. 23 for following construction work: electric wiring of transit shed at Manchester wharf; sanitary sewer in alley between Adams and Edgewood streets from Sherman street to Harrisburg road; paving Washington avenue from Fifth St. to Houston Ave., paving

September 28, 1922.

MANUFACTURERS RECORD.

anal, A.
ton, D.
il han-
ers;
e nails;
electric
ndui;
tive are
; spark
k forms
pplica-
t. Pur-
k; 61
rt Ma-
offices.

Canal,
Wash-
to fur-
Clarks-
ent and
paints
informa-
Panama
at New
Engr.

ox 800,
burners

on, D.
q. yds.

Engr.,
damize

Paso,
Alta St.
western

Cape
tō im-
Pacific

Com-
opened
curb in
ds. one
concrete
Smith,

ctor of
opened
ewalks;
Bldg.

arks, St.

ive with
o Vas-
block

l Felix

Hunts-
paving;

2; 9500
lin. fl.

City,
—Bids

1 sewer

electric
gutter;

sewer

Tex.,
1 Sept.

electric
wharf;

ns and

reet to

avenue

paving

ed.

Preston Ave. from Crawford St. to Dowling St.; plans and specifications upon application to City Engr.

Peanut Product Machinery.—W. J. Ryan, Secy., Industrial Comm., Holdenville, Okla. Prices on peanut product machinery.

Pipe (Cast Iron, Culverts).—H. R. Rhodes, Highway Engr., Vicksburg, Miss.—Data and prices on cast iron culvert pipe, to purchase in carload lots.

Pipe (Cast Iron, Water).—Board of Public Service, Room 208, City Hall, St. Louis, Mo.—Bids until Oct. 3 to furnish and deliver 3387 tons of coated cast iron water pipe; plans with Water Commr., 312 City Hall.

Plumbing.—Clarence O. Downes, 3122 Berkshire Rd.—Estimates on plumbing, Eudowood Sanitarium, Pleasant Plains Farms, Md.

Radiators.—Duncan Machinery Co. (Mchly. Dealers) 721 N. Central Ave., Knoxville, Tenn.—Dealers prices on used steam and hot water radiators, 2, 3 or 5 column.

Repairing (Dam).—U. S. Engr. Office, Galveston, Tex.—Bids until Oct. 4 for repairs to Caddo Lake Dam, Moorsport, La.; further information on application.

Road Construction.—State Highway Dept., Jefferson City, Mo.—Bids opened Sept. 22 for 12.32 mi. State road from Gallatin south, westward and northeastward; State Aid Project No. 20,206; grade and construct culverts; N. R. Sack, Div. Engr., Ballinger Bldg., St. Joseph, Mo.

Road Construction.—State Highway Dept., Jefferson City, Mo.—Bids opened Sept. 25 for 10.60 mi. State road from Kansas City to Liberty; one course concrete pavement; Federal Aid Project No. 99; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City, Mo. (Lately noted.)

Road Construction.—State Highway Dept., Jefferson City, Mo.—Bids opened Sept. 22 for 3,069 mi. State road from Hermitage westward; gravel pavement; Federal Aid Project No. 86 A; grade and construct drainage structures; H. P. Mobberly, Div. Engr., Woodruff Bldg., Springfield, Mo.

Road Construction.—Palm Beach County Comrs., Hector Harris, Chrmn., West Palm Beach, Fla.—Bids opened Sept. 27 to resurface 3 mi. Jupiter-Indiantown road, from intersection with road D, of Special Road & Bridge District No. 8, running west; plans, etc., from County Engr.

Road Construction.—State Highway Coms., Montgomery, Ala.—Bids until Oct. 18 to surface 9 mi. road from Tuscaloosa to Jefferson County line; plans, etc., from W. S. Keller, State Highway Engr., Montgomery, or Div. Engr., 512 Lyric Bldg., Birmingham.

Road Construction.—State Highway Coms., Richmond, Va.—Bids until Oct. 10 for following projects:

170, Route 3—3.48 mi. 18-ft. concrete road from Daniels Creek to Martinsville, Henry County.

217-A, Route 11—1.03 mi. bituminous macadam road through Clintwood toward Kentucky State line, Dickenson County.

256, Route 11—1.98 mi. 16-ft. bituminous and surface treated macadam road from Burkes Garden Siding to Tazewell, Tazewell County.

130, Route 21—.93 mi. grade and surface treated macadam road from Greenwich to Milford Mills, Fauquier and Prince William Counties.

203, Route 21—1.405 mi. 12-ft. surface treated macadam road from New Baltimore to Milford Mills, Fauquier County.

8-219, Route 18—1.84 mi. concrete road in Halifax, Halifax County.

192-A, Route 3—5 mi. bituminous macad-

am road from north to Greenville toward Fairfield, Augusta County; plans, etc., on file, and from following District Engrs.: Project 170 at Roanoke; 217 and 256, Bristol; 130 and 203, Manassas; 8-219, Lynchburg; 192-A, Staunton.

Road Construction.—Williamson County, H. A. Hodges, County Auditor, Georgetown, Tex.—Bids until Oct. 10, for 12 mi. Highway C-2, from Georgetown to Travis County line; 108,000 sq. yds.; plans, etc. from T. A. Nichols, County Engr.

Road Construction.—Bexar County, Augusta McCloskey, County Judge, San Antonio, Tex.—Bids until Sept. 30 to reconstruct W. W. White road from St. Hedwig road to Gonzalez road, Precinct No. 4; gravel and 1½-in. surface treatment.

Road Construction.—City, John A. Russell, Chrmn. Street Comsn., Annapolis, Md.—Bids until Oct. 2 for following:

.14 mi. highway on Thompson St., between Southgate Ave. and Spa Creek.

.10 mi. highway on Murray Ave., between 1st and 2nd Sts.

.08 mi. highway between Northwest St. and Short Line tracks; concrete or penetration macadam on all; plans, etc. from Mayor.

Road Construction.—Hardee County Comrs., Geo. M. Hardee, Clk., Wauchula, Fla.—Bids until Oct. 18 to grade, surface and construct drainage structures on 90 mi. road from Wauchula to Manatee County line, and from Parrish to Hardee County line; plans, etc., on file and from H. S. Jaudon Engineering Co. Engr., Elberton, Ga.

Road Construction.—State Highway Dept., Jefferson City, Mo.—Bids until Sept. 28 for following:

Clay County, 4,137 mi. State road from North Kansas City to Gashland; 18-ft. concrete pavement; State Project, Route 1, Sec. 41.

Clay County, 4,457 mi. State road from Kansas City to Gashland; 18-ft. concrete pavement; State Project, Route 1, Section 42; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City, Mo.

Morgan County, 5 mi. State road from Versailles to Linn Creek; 12-ft. gravel surfacing; State Project, Route 5, Section 56; R. W. Hodson, Div. Engr., Jefferson City.

Polk County, 4,943 mi. State road from St. Clair County line south on Springfield-Osceola road; 12-ft. gravel surfacing; State Project, Route 13, Section 46; H. P. Mobberly, Div. Engr., Woodruff Bldg., Springfield, Mo.

Perry County, 4,036 mi. State road from Perry-St. Genevieve County line east on Kings Highway; 16-ft. gravel pavement; State Project, Route 25, Section 12; S. M. Rudder, Div. Engr., Bristol Bldg., Webster Grove, Mo.

Wright County, 3,163 mi. State road from Springfield to Memphis, between Webster County line and Mansfield; 16-ft. gravel pavement; State Project, Route 16, Section 37; J. H. Long, Div. Engr., Willow Springs, Mo.

Adair County, 3,22 mi. State road from County line west on Milan to Kirksville road; 16-ft. gravel surfacing; State Project, Route 6, Section 38; C. P. Owens, Div. Engr., Howe Bldg., Macon, Mo.

Chariton County, 2,958 mi. State road east and west of Chariton; 18-ft. penetration macadam; State Project, Route 10, Section 26; C. P. Owens, Div. Engr., Howe Bldg., Macon, Mo.

Audrain County, 2,764 mi. State road from Mexico, east on Mexico and Montgomery City road; 16-ft. gravel surfacing; State Project, Route 22, Section 9; Harry D. Griffith, Div. Engr., Jefferson City.

Lewis County, 1,657 mi. State road through Upper Monticello and Canton Special Road Dist.; 16-mi. gravel, surfacing; State Project, Route 6, Section 60; Harry D. Griffith, Div. Engr., Jefferson City, Mo.

Texas County, 4,924 mi. State road from Houston to Phelps County line; State Project, Route 7.

Texas County, 4,886 mi. State road from Houston to Phelps County line; State Project, Route 7, Section 77.

Texas County, 4,469 mi. State road from Houston to Phelps County line; State Project, Route 7, Section 78; J. R. Long, Div. Engr., Willow Springs, Mo.

St. Charles County, 3,166 mi. State road from Warrensburg to St. Charles; 18-ft. concrete pavement; State Project, Route 2, Sec. 66.

St. Charles County, 2,637 mi. State road from Warrenton to St. Charles; 18-ft. concrete pavement; State Project, Route 2, Sec. 67.

St. Charles County, 4,920 mi. State road from Warrenton to St. Charles; 18-ft. concrete pavement; State Project, Route 2, Sec. 70.

St. Charles County, 3,74 mi. State road from Warrenton to St. Charles; 18-ft. concrete pavement; State Project, Route 2, Sec. 72.

St. Charles County, 3,783 mi. State road from Warrenton to St. Charles; 18-ft. concrete pavement; State Project, Route 2, Sec. 73; S. M. Rudder, Div. Engr., Bristol Bldg., Webster Grove, Mo.

Lawrence County, 1,687 mi. State road from Monett to Springfield; 18-ft. concrete pavement; State Project, Route 16, Sec. 19; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin, Mo.

Grundy County, 2,569 mi. State road through Edinburg Special Road Dist.; 18-ft. macadam pavement; State Project, Route 6, Sec. 22.

Vernon County, 4,943 mi. State road from Nevada to El Dorado Springs; State Project, Route 26, Sec. 6; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin, Mo.

Osage County, 2,36 mi. State road from Huber's Ferry to Mt. Sterling; 16-ft. gravel pavement; State Project, Route 7, Sec. 38; R. W. Hodson, Div. Engr., Jefferson City.

Gasconade County, 2,216 mi. State road from Mt. Sterling to Roseland; State Project, Route 12, Sec. 44; S. M. Rudder, Div. Engr., Bristol Bldg., Webster Grove, Mo.

Shannon County, 4,780 mi. State road through Shannon County, east and west; 16-ft. gravel pavement; State Project, Route 16, Sec. 60; J. H. Long, Div. Engr., Willow Springs, Mo.

Reynolds County, 5 mi. State road from Centerville southward; State Project, Route 21, Sec. 24; J. H. Long, Div. Engr., Willow Springs, Mo.

Carter County, 4,018 mi. State road from west line Carter County on Winona-Van Buren line; 16-ft. gravel pavement; State Project, Route 16, Sec. 61.

Cape Girardeau County, 4,928 mi. State road on Kings Highway; State Project, Route 25, Sec. 20.

Cape Girardeau County, 4,377 mi. State road on Kings Highway; State Project, Route 25, Sec. 21.

Cape Girardeau County, 3.4 mi. on Kings Highway; State Project, Route 25, Sec. 22; Frank B. Newton, Div. Engr., Silkeston, Mo.

Ripley County, 4,931 mi. State road from Shannon County to Ripley County; State Project, Route 42, Sec. 4; grade and construct drainage structures on all; Frank B. Newton, Silkeston, Mo.

Road Construction.—Fort Mill Township Highway Comsn., W. B. Meacham, Secy.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Road Construction.—Fort Mill, S. C.—Bids opened Sept. 25 for 8 mi. top soil or sand clay surfacing, with drainage pipes and structures; plans, etc., on file or from H. S. Jaudon Engineering Co., Elberton, Ga.

Road Construction.—Escambia County Comrs., Jas. Macgibbon, Clerk, Pensacola, Fla.—Bids until Oct. 3 to clear and grub 11 mi. new public road from point on Pensacola-Flomaton road near Molino turnout, to Dee's old field; plans, etc., on file.

Road Construction.—Duplin County Highway Coms., Jas. J. Bowden, Secy., Kenansville, N. C.—Bids until Oct. 9 for 15 mi. top soil road from Alum Springs to Cobbs School House, near Mt. Olive; plans, etc., from H. J. Randolph, County Engr., Warsaw, N. C.

Road Construction.—Gundry County Highway Coms., Coalmont, Tenn.—Bids until Oct. 16 to grade and drain 5½ mi. highway from foot of mountain in Payne's cove to Franklin County line; J. B. Cochran, County Engr.

Road Construction.—Nueces County, F. A. Thompsons, County Auditor, Corpus Christi, Tex.—Bids until Sept. 29 for 28 mi. roads in county; 188,000 sq. yds. Uvalde rock asphalt surfacing; 94,000 sq. yds. shell concrete; plans, etc., from Calvin E. Cook, County Engr.

Road Construction.—Duval County Comrs., Frank Brown, Clk., Jacksonville, Fla.—Bids until Oct. 2 to build roadway on San Jose Blvd.; 11,000 cu. yds. earth fill; plans, etc. on file.

Rock Crushing Machinery.—W. J. Ryan, Secy., Industrial Comm., Holdenville, Okla.—Prices on rock crushing machinery for making cherts.

Rope.—Noble Coal & Lumber Co., Whick, Ky.—Prices on rope for aerial tramway.

Samples (Building Material).—Jas. L. Gatling, Archt., 616 Madison Avenue Bldg., Memphis, Tenn.—Building material samples.

Sewer Construction.—City of Tampa, Fla., Wm. E. Duncan, City Clk.—Bids until Sept. 26 for constructing sanitary sewer system as follows: On Floribaska Ave. from Highland Ave. to Ola St., estimated amount of work—285 lin. ft. of 6-in. T. C. pipe, 10 Y's-in. x 6-in., 1 manhole; in alley between Durham and Long Sts., from 28th to 30th Sts., estimated amount of work—660 lin. ft. 6-in. T. C. pipe, 26 Y's-4-in. x 6-in., 2 manholes; in alley between Marconi and Durham Sts. from 28th to 30th Sts., estimated amount of work—660 lin. ft. 6-in. T. C. pipe, 26 Y's-4-in. x 6-in., 2 manholes; information on application.

Sewer Construction.—City of Decatur, Ga., J. S. Looney, City Mgr.—Bids until Sept. 2 for furnishing all materials and labor in constructing approx. 1 mi. of 8-in. pipe sanitary sewers; information on application; B. F. Williams, City Engr.

Shovels (Steam).—D. C. Elphinstone (Machinery Dealers) 408 Continental Bldg., Baltimore, Md.—One Marion Model 36 and one 70-C Bucyrus steam shovels.

Tinning.—Clarence O. Downes, 3122 Berkshire Road.—Estimates on tinning, Eudowood Sanitarium, Pleasant Plains Farms, Md.

Tablets (Marble).—Tunica County Board of Supvrs., L. C. Shannon, Clerk, Tunica, Miss.—Bids until Oct. 2 for marble tablets for courthouse; plans and specifications from Frank P. Gates, Archt., Clarksdale, Miss.

Tile (Floor).—Charles E. Hillyer, Orange Hotel Co., Orlando, Fla.—To correspond with mfrs. of floor tile, for hotel building.

Timber (Creosoted, etc.).—Port of New Orleans Comrs., Suite 200, New Orleans

Court Bldg., New Orleans, La.—Bids until Sept. 28 to furnish under separate awards; 410,000 ft. B.M. creosoted timber; 32,000 lin. ft. creosoted piles; further information on application to Supvg. of Purchases, 1 Canal St.

Stucco.—Clarence O. Downes, 3122 Berkshire Rd.—Estimates on stucco work, Eudowood Sanitarium, Pleasant Plains Farms, Md.

Torch (Cutting).—Kaufman Metal Co., Jacksonville, Fla.—Information on any chemical or cutting torch that could cut brass.

Transformers.—Woodstock Slag Co., Box 894, Anniston, Ala.—Two 15 KVA transformers, 3 phase, 60 cycle, 2200 to 550 volts; state condition and price subject to inspection at once.

Vault Door.—Bank of Stony Creek, B. F. Jarratt, Cashr. Stony Creek, Va.—Used vault door.

Walters (Dumb).—A. W. Stewart, Demopolis, Ala.—To purchase two, hand operating dumb waiters, capacity about 100 lbs. each.

Water Works.—City of Jonestown, Miss., A. W. Ferris, Mayor—Bids until Sept. 27 for furnishing materials and constructing improvements to water works system as follows: concrete reservoir oil engine and pump, steel tank and tower and iron pipe and valves, etc.; plans and specifications on file at office of Bobo & Collier, Engrs., Clarksdale, Miss. and from office of Mayor.

Water Works (Artesian).—Board of Comrs. of Memphis Artesian Water Dept., Memphis, Tenn.—Bids until Oct. 6 for construction of reinforced concrete reservoir and reinforced concrete sub-structure of a pumping station, iron removal plant and aerator and for furnishing and installing cast iron pipe, valves, drains and appurtenance structures, Contract No. 6; approx. quantities areas follows: 80,000 cu. yds. excavation; 15,000 cu. yds. concrete; 700 tons reinforcing steel; 220 tons cast iron pipe and specials; 75 4-in. to 48-in. valves and sluice gates; five 30 and 48-in. Venturi meters; 8 filter rate controllers; plans and specifications on file at office of Memphis Artesian Water Dept., Fuller & McClintock, 431 Produce Exchange Bldg., Kansas City, Mo., 170 Broadway, N. Y.; 319 Summit Cherry Bldg., Toledo, O.

Water Works Equipment.—Paul J. B. Murphy, City Mgr., Radford, Va.—Prices on fire hydrants, centrifugal pumps, for water works system.

Water Works and Sewer System.—City of Cedar Grove, La., U. S. Bartimuss, Mayor.—Bids until Oct. 3 for furnishing materials and labor required for construction of water works and sanitary sewer system, under one general contract, approx. quantities as follows:

Water System—66,807 ft. of 10 to 2 in. C. I. pipe, 36,748 lbs. C. I. specials;

Hydrants and Valves—49-4-in. hydrants 6-in. shoe, 14-4-in. hydrants 4-in. shoe; 1-10-in. 1-8-in. 12-6-in. 2-4-in., 41-2-in. gate valve and box;

Pumping Plant—duplicate air compressors, natural gas engine and triplex pump, gauges and Venturi meter, building complete, 3-250 ft. x 8 1/4-in. drilled wells;

Reservoir—75,000 gal. 125-ft. water tower, 1-concrete surface reservoir; alternate steam pumping plant with 50,000 gal. water tower.

Sewer System—57,070-ft. cut 0 to 6-ft. and 18 to 20-ft.; sewer pipe laid, 57,056-ft. of 8-in. to 15-in. vitrified pipe, 24 ft. of 12-in. C. I. pipe; 1280 ft. of 6-in. on 8-in. Y's, 120-6-in. on 10-in. Y's, 290-6-in. on 12-in. Y's, 24-6-in. on 15-in. Y's; appurtenances 25 flush tanks, 90 manholes, 6 drop manholes, 74-ft. Ex. depth MH. 1950-ft. % pipe and

trench, 25 service connections, concrete outlet protect; disposal plant-Imhoff tank, sludge bed, dosing chamber, sewage ejectors, filter beds, etc.; plans and specifications on file at office of Mayor and City Clk., Cedar Grove, and at office of E. T. Archer & Co., Engrs., New England Bldg., Kansas City, Mo., or Merchants Bldg., Shreveport, La.

Wood (Pine and Oak).—Duval County Bd. of Charities, Julia W. Hopkins, Secy., Jacksonville, Fla.—Bids until Sept. 30 to furnish pine and oak wood by the cord for use by Duval County Hospital for winter 1922.

Financial News

New Financial Corporations.

Fla., West Palm Beach—First National Bank of West Palm Beach, capital \$25,000, inceptd. with J. L. Griffin, Prest., H. L. Donald, Vice Prest.

Md., Baltimore—Kovner Bldg. and Loan Association, 2023 Fairmount Ave., capital \$50,000, inceptd. by Robert Kramer, Jacob Blumberg and Joseph Walpert.

Md., Baltimore—Vermont Building & Loan Association, 2812 Edmondson Ave.; capital \$1,040,000, inceptd. by William G. Rogers, Timothy J. Dee and Joseph Gorton.

Md., Germantown—Germantown Bank, capital \$50,000, inceptd. with Andrew Baker, Prest.

Miss., Greenwood—Security Bank and Trust Company, capital \$35,000, inceptd. by D. A. Linthicus, J. B. Stirling, Lee R. Hart, W. M. Whittington, and others.

Mo., St. Louis—Pulaski Bldg. & Loan Association, capital \$500,000, inceptd. by Frank Obrembski, Stan. Coborowski, Julian Pilinski and others.

Mo., West Plains—First National Bank and Howell County Bank, will consolidate, as the First National Bank, combined resources \$1,000,000.

N. C., Mocksville—Southern Bank & Trust Co., capital \$30,000 inceptd. with D. H. Hendricks, Prest., Bixby, N. C., W. R. Clement, Vice Prest., A. A. Holleman, Cashr., Mocksville.

N. C., Pineville—Merchants & Farmers Bank, capital \$15,000, organized with W. B. Mehacman, Prest., Fort Mill, L. E. Down, Cashier, Pineville.

Okla., Muskogee—The First National Co., capital \$25,000, inceptd. with H. H. Ogden, Prest.; L. W. Duncan, Vice-Prest.; J. P. Solomon, Secy. and Treas.

Va., Alexandria—Charles F. Holden Co., capital \$50,000, inceptd. with Charles F. Holden, Prest.; Richard Gibson, Secy.

Va., Phoebe—Old Point National Bank, capital \$50,000, chartered; L. M. Von Schilling, Interested.

Va., Richmond—Guaranty Trust Co., chartered, capital \$300,000, inceptd. with George C. Gregory, Prest.; Archibald G. Lewis, Secy.

W. Va., Charleston—Supreme Life and Casualty Co., capital \$200,000, inceptd. with T. K. Gibson, Prest., M. C. Clark, State Agent.

W. Va., Wheeling—Wheeling Savings & Loan Association will increase capital from \$500,000 to \$1,000,000.

W. Va., Wheeling—Wheeling Mortgage Co., lately noted inceptd. with \$500,000 capital, or-

crete out
off tank,
vage ejec-
specia-
and City
of E. T.
and Bldg.
ts Bldg.,

ounty Bd.
ey., Jack-
to furnish
or use by
1922.

EWS

ions.

National
\$25,000.
J. L. Don-

and Loan
., capital
er, Jacob

g & Loan
; capital
. Rogers,

new Bank
ew Baker.

ank and
ncptd. by
R. Hart,

Loan As-
by Frank
ian Pillin-

Bank and
as the
resources

Bank &
ith D. H.
R. Clem-
n, Cashr.

Farmers
ith W. B.
L. Downs,

ional Co.,
I. Ogden.
; J. P.

olden Co.,
s F. Hol-

nal Bank,
on Schill-

Co., char-
h George
G. Lewis.

Life and
ptd. with
rk, State

avings &
ital from

ggage Co.,
ital, or-
ioned.

ganized with Herman Bentz, Prest., John H. Wells, Vice-Prest. and C. H. Eberts, Treas.

New Securities.

Ala., Anniston—Sewers—City will sell \$50,000 bonds. Address The Mayor.

Ala., Birmingham—Water—City voted bonds, D. L. Davis, Mayor.

Ala., Fairfield—School—City sold \$73,000, 5½% bonds to Marx & Co., Birmingham.

Ark., Fayetteville—School—Board of Directors, E. J. Ellis, Prest.; W. J. Reynolds, Secy, receives bids until Oct. 7 for \$45,000, 5% semi-annually bonds.

Ark., Pulaski—Road Improvement—Pulaski Bd. of Comms., receives bids until Oct. 16 for \$1,750,000 bonds.

Fla., Blountstown—Highway—Calhoun County voted \$50,000 bonds. Address County Comms.

Fla., Bronson—Road and Bridge—Levy County Special Road and Bridge District No. 3, sold to Sidney Spitzer & Co., Toledo, \$100,000, 6% bonds.

Fla., Ft. Pierce—Drainage—J. E. Andrews, Secy., Board of Supr., receives bids until Sept. 29 for \$500,000, 6% bonds.

Fla., Fort Pierce—Inlet—Caldwell and Co., of Nashville and Birmingham, purchased \$100,000 bonds from Bd. of Inlet Comms.

Fla., Madison—Road—Madison County, D. F. Burnett, Jr., Clk., receives bids until Oct. 2, for \$750,000, 5% bonds.

Fla., Groveland—School—Lake County, Bd. of Public Instruction, D. H. Moore, Supt., Tavares receives bids until Oct. 9, for \$16,500, 5%, \$500 & \$1000 denom. bonds, for Special Tax School Dist. No. 36.

Fla., Pine Level—School—P. G. Shaver, County Supt. and Secy. DeSoto County, School Dist. No. 23, receives bids until Oct. 16 for \$10,000, 6% bonds.

Fla., Tallahassee—Improvement—City Comms. will vote on \$145,000 bonds.

Fla., West Palm Beach—Drainage—Palm Beach County—C. E. Chillingworth, District Treas., receives bids until Oct. 16 for \$196,000.

Ga., Athens—Paving—City sold \$103,000 bonds to I. V. Pigrett, above par.

Ga., Brunswick—Road—Glynn County voted \$175,000 bonds. Address County Comms.

Ga., Macon—School—Bibb County voted \$500,000 bonds. Address County Comms.

Ky., Ashland—Water Works—Bd. of Water Works Commission, R. D. Davis, Secy. receives bids until Sept. 28, for \$90,000, 4¾% bonds.

Ky., Covington—Paving—City Comms., plan voting on \$500,000 bonds.

Ky., Hazard—Road—Perry County Fiscal Court, Joshua A. Smith, County Judge, will issue \$500,000 bonds.

Fla., Howey—School—Lake County, Bd. of Public Instruction, D. H. Moore, Supt., Tavares receives bids until Oct. 9, for \$7000, 6%, \$50, denom. bonds, for Special Tax School Dist. No. 52.

Fla., Tampa—Improvements—City will vote on \$36,000 bonds. Address The Mayor.

Ga., Sylvester—School—Sylvester Consolidated School Dist., voted \$50,000,000 bonds.

Ky., Louisville—Road Improvement—

Meyer-Kiser Bank of Indianapolis purchased \$42,000, 4¾%, Floyd County road bonds.

Ky., Salyerville—Road—Magoffin County, receives bids until Sept. 30, for \$37,500, 5%, \$1000 denomination bonds.

La., Amite—School—Tangipahoa Parish, receives bids until Nov. 6, for \$100,000, 5%, \$1000 denomination bonds; at par and accrued interest. Address Parish Supt. of Schools.

La., Edgard—Road Improvement—Police Jury at Edgard sold \$31,000, 6% bonds to Hibernia Securities.

La., Hammond—School—City voted \$100,000 bonds. Address The Mayor.

La., Harrisonburg—J. K. McGee, Secy. of Police Jury, Catahoula Parish, sold \$35,000, 6% bonds to M. W. Elkins & Co.

La., Lake Charles—School—Calcasieu Parish School Bd. sold to M. W. Elkins & Co., Little Rock, Ark., \$70,000, 6% bonds.

La., Minden—School—E. S. Richardson, Secy. School Bd. of Webster Parish, receives bids until Oct. 10 for \$320,000, 6% bonds.

La., St. Francisville—Improvement—West Feliciana Parish, receives bids until Sept. 28, for \$20,000, 6% bonds.

La., Winnboro—Water and Sewerage—Caldwell & Co., Nashville, Tenn., purchased \$80,000, 5% bonds, at par and accrued interest.

La., Ville Platte—School—Evangeline Parish School District, receives bids until Sept. 27 for \$50,000, 6% bonds.

Md., Baltimore—School—City will vote on \$15,000,000 bonds in Nov. Wm. F. Broening, Mayor.

Miss., Bay St. Louis—Water Works—S. J. Ladner City Secy., receives bids until Oct. 7, for \$58,000, 6% bonds.

Miss., Clarksdale—Levee—Bd. of Levee Comms., Yazoo—Miss. Delta, sold \$20,000 bonds to the Bank of Commerce and Trust Co., at par and accrued interest. F. H. Cannon, Secy-Treas. (Lately noted.)

Miss., Tallulah—Levee—Caldwell & Co., Nashville, Tenn., purchased \$125,000, 5% bonds.

Mo., Charleston—Road—Mississippi County, Harry S. Roberts, Secy., Bd. Comms., receives bids until Oct. 3 for \$140,000, 5½%, \$1000 denomination bonds.

Mo., Chillicothe—Hospital—Livingston County will vote Nov. 7 on \$175,000 bonds. Address County Comms.

Mo., Fayette—Road and Bridge—Franklin Township, sold to Guaranty Trust Co., St. Louis, \$25,000, 5% bonds.

N. C., Asheville—Street, Sewer and Water—City sold \$375,000, 4¾% bonds to American Trust Co., Charlotte.

N. C., Bridgeton—School—City voted \$25,000 bonds. Address The Mayor.

N. C., Charlotte—School—City receives bids until Sept. 27, for \$15,000, 6% bonds. F. B. Hendren, Chrmn. School Board.

N. C., Fayetteville—Road and Bridge—Cumberland County will receive bids until Oct. 10 for \$250,000, 5%, \$1000 denomination bonds. D. Gaster, County Treas.

N. C., Haw River—School—Aycock Graded School Dist. sold \$20,000, 6% bonds to Sidney Spitzer & Co. (Lately noted.)

N. C., Hillsboro—Street Paving—City will hold election Oct. 10, to vote on \$60,000 bonds I. M. Arrasmith, Mayor.

N. C., Lumberton—Sewer and Street—City sold to Caldwell & Co., Nashville, Tenn., \$200,000, 5½% bonds.

N. C., Pinetops—Electric—Prudden & Co., Toledo, Ohio, purchased \$15,000, 6% bonds from city.

N. C., Snow Hill—Street—W. L. Slayton & Co., Toledo, purchased \$100,000, 6% bonds, at premium. (Lately noted.)

N. C., Southport—School—Bd. of Trustees Southport High Dist. receives bids until Sept. 26, for \$50,000 bonds. T. H. Lindsey, Secy.

N. C., Tarboro—School—City voted \$25,000 school bonds. Address The Mayor.

N. C., Troy—Street—Town receives bids until Oct. 3 for \$60,000, 6%, \$1000 denomination bonds; M. A. Nicholson, Town Clerk.

N. C., Wadeville—School—Bd. of Trustees of Wadeville, Dist. receives bids until Oct. 2, for \$5,000, 6% bonds. Bruce Craven, Atty., Trinity, N. C.

Okla., Chickasha—Park Improvement—City will vote on \$55,000 bonds, O. Coffman, Mayor.

Okla., Claremore—Road—Rogers County contemplates voting on \$500,000 bonds. Address The Mayor.

Okla., Cyril—Water—City will vote on \$25,000 extension bonds. Address The Mayor.

Okla., Tulsa—School—Harris, Forbes & Co., New York, purchased \$275,000, 5% bonds.

Okla., Waggoner—Paving—City voted \$30,000 bonds. Address The Mayor.

S. C., Greer—School—Farmers Bank & Trust Co., C. L. Cobb, Prest., purchased \$25,000, 6% bonds from City.

Tenn., Cleveland—Paving—City sold to I. B. Tigrett & Co., Jackson, Tenn., \$83,665.25, 6% bonds.

Tenn., Memphis—Drainage—City sold to J. B. Tigrett of Jackson, \$85,000 bonds.

Tex., Alpine—Road—Brewster County voted \$300,000 bonds. Address County Comms. (Lately noted.)

Tex., Alvarado—School, Street, Water—City voted \$19,000 bonds for street improvements; \$9000 for schools; \$30,000 for water works. Address The Mayor.

Tex., Cameron—Sewer Bonds—City, J. B. White, Mayor, will vote on \$14,000, 6% bonds.

Tex., Corsicana—Road—Navarro County plans voting on \$5,000,000 bonds. Address A. P. Mays, County Judge, Corsicana.

Tex., Dallas—Railroad Building and Loan Association, Kirby Bldg., issued \$5,000,000 bonds at \$100 denomination.

Tex., Galveston—School—City voted \$500,000, 5% bonds at \$1000 denomination. Address City Comms.

Tex., Harrisburg—School—Harris County, voted \$100,000 bonds. Address County Comms.

Tex., Lancaster—School—Lancaster Independent School District, sold to Stern Bros. & Co., Kansas City, Mo., \$50,000, 5½% bonds. (Lately noted.)

Tex., Lubbock—Water and Sewer—City sold to Geo. H. Walker & Co., and the First National Co., St. Louis, \$150,000, 5%, \$1000 denomination bonds.

Tex., Lubbock—Road—Lubbock County, Slaton Road Dist. voted \$20,000 bonds. Address B. F. Brown, County Judge, Lubbock.

Tex., Lumpkin—Road—Angeline County sold \$500,000 road bonds at par and accrued interest. Address County Comms.

Tex., Mason—School—Mason County, sold \$75,000, 6%, \$1000 denomination bonds to Richard Schmidt.

Tex., Navarro—School—Navarro County, voted \$5000 bonds. Address County Comms.

Tex., Palestine—Roads—Anderson County contemplates voting on \$1,000,000 bonds. Address County Comms.

Tex., Pampa—Water and Sewer—Breg, Garrett & Co., Dallas, Tex., purchased \$80,000, 6% bonds.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Tex., Richmond—Road and Bridge—Fort Bend County sold \$500,000, 5½% road bonds and \$100,000, 5½% bridge bonds, both at par and accrued interest.

Tex., Rosenberg—Road—Fort Bend County sold \$100,000 bonds. Address County Commissioners.

Tex., Seymour—City sold to Breg, Garrett & Co., 1201 Praetorian Bldg., Dallas, Tex., \$80,000 bonds.

Tex., Seymour—Road—Baylor County, Precinct, No. 4, votes Sept. 30 on \$40,000 bonds; Nat. G. Mitchell, County Judge; T. J. Kelly, County Engr.

Tex., Tahoka—Paving—City sold \$90,000 bonds at par and accrued interest. Address The Mayor.

Tex., Tuha—Sewer, Water and Light—City will vote Oct. 12 on \$125,000 bonds.

Va., Charlottesville—Improvement—City sold \$400,000 improvement bonds at par and accrued interest to R. M. Grant & Co., New York.

Va., Richmond—Bridge and Road—Fort Bend County, sold \$600,000, 5½% bonds, at par and accrued interest, to William R. Compton & Co., Dunn & Carr and Halsey-Stuart & Co.

W. Va., Huntington—School—City will vote on \$700,000 bonds, John G. Graham, Supt. of Schools.

W. Va., Logan—Street Improvements—City, J. A. Hogg, Mayor, receives bids Oct. 3 for \$30,000, 6%, \$1000 denomination bonds.

Financial Notes.

Ga., Athens—Fidelity Loan & Investment Co., will increase capital from \$50,000 to \$75,000. W. P. Brooks, Pres., W. L. Hancock, Vice-Prest.

Ky., Louisville—Lincoln Building and Loan Assn., increased capital to \$2,000,000.

Okla., Okmulgee—Security Savings & Loan Assn., increased capital to \$750,000.

Va., Galax—People's State Bank, will increase capital to \$50,000.

Trade Literature.

Drilling and Milling Machine.

The Pawling & Harnischfeger Company, Milwaukee, Wis., has issued a bulletin (No. 3-T) covering a new table type horizontal drilling and milling machine. Copies of this new bulletin, which contains fine illustrations of the machine, accompanied by complete descriptions, will be sent on request.

Complete Service Stations Needed.

"The Backbone of Automotive Service," a booklet issued by the Jacobs Manufacturing Co., makers of drill chucks, Hartford, Conn., has been prepared with the assistance of many of the best known machine tool builders and is intended to promote a more general appreciation of the importance of adequate shop equipment in service stations. Adequate machine equipment, it says, is a necessity to profitable work. Discussed successively are the lathe, the drill press, the portable electric drill, the cylindrical grinder, the cylinder grinder, and the arbor press. It is further noted that completeness includes a universal milling machine and shaper.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Steel Forms for Curb Construction.

The Heitzel Steel Form & Iron Co., Warren, Ohio, has prepared a four-page letter folder entitled "A Time Study of Curb Construction," which gives a very careful comparison of wood forms versus steel forms and which, it is believed, will interest many contractors throughout the South as well as in other parts of the country. The folder is finely and accurately illustrated showing the use of the Heitzel steel forms.

Petroleum Recovery and Refining.

Bulletin No. 3 of the Silica Gel Corporation, 1100 Garrett Building, Baltimore, Md., relates to the refining and recovery of petroleum oils by means of the Silica Gel process, the advantages of which are completely and interestingly described with accompanying diagrams showing the layouts of refining and adsorption plants. Mention is also made of gasoline recovery from oil stills, casinghead and natural gas.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers, or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

District Manager Appointed.

The Power Specialty Co., 111 Broadway, New York, has appointed Pell W. Foster, Jr., as New England district manager, with offices at 50 Congress St., Boston, Mass. Mr. Foster was formerly in the New York sales office of the company.

Branch Office Removed.

The branch office of the Sullivan Machinery Company in Dallas, Tex., has been moved from Room 328 in the Western Indemnity Building to Room 331 in the same building. This office is under the management of D. H. Hunter. Headquarters of the company are in Chicago, Ill.

Important Manufacturing Opportunity.

An active oil engine manufacturing plant engaged in production of the Mietz & Weiss semi-Diesel type oil engine which is known all over the world, is being offered for sale by the Industrial Plants Corporation, 25 Church Street, New York, according to a formal announcement elsewhere in this issue. Included in the offer are patent rights, patterns, drawings, and full equipment, besides finished stock, machinery and tools, names of customers, etc., to enable purchasers to continue the industry uninterruptedly. Further particulars will be found in the advertisement.

New District Sales Office.

The Elliott Company, of Pittsburgh, Pa., manufacturers of power accessories, with sales offices and factory at Jeannette, Pa., have announced the opening of a new district sales office in Atlanta, Ga., at 305 Haas-Howell Building, this step being necessary to take care of increasing business. The Atlanta office is under the charge of H. A. Hoffman, formerly in the Philadelphia office, and this makes the twelfth district office established by the company. In addition to Elliott products Mr. Hoffman will also handle kindred products made by the Lagonda Mfg. Co., of Springfield, Ohio; and the Liberty Manufacturing Co., of Pittsburgh.

Vice-President Elected.

Jos. S. Ruble has been elected vice-president in charge of all construction of the H. K. Ferguson Company, engineers and builders, Cleveland, Ohio. Mr. Ruble, who recently resigned as vice-president of the Austin Company, which position he has held for the last nine years, graduated in mechanical engineering at the Pennsylvania State College in 1901. Since then he has been with Hoover & Mason, contracting engineers; the United States Steel Corporation, part of the time being with the Tennessee Coal, Iron & Railroad Co. as construction engineer; and finally with the Austin Company. His work has included design and construction of heavy foundations for blast

furnaces, steel mills and power plants, besides development and equipment of complete coal mines together with the industrial community adjacent. He is a member of the American Society of Mechanical Engineers.

Heating and Ventilating Installations.

The Hammond Heating Company, Inc., 110 East Second St., Cincinnati, O., have recently closed orders in the South for their warm air furnaces as follows: New residence of J. B. Dorch, Mobile, Ala.; new Consolidated School, Egypt, Miss.; Mississippi Automobile Garage, Tupelo, Miss.; Christian Church, Bellevue, Ky. Besides, the company are now completing installation of their fan furnace system of warm air heating and ventilation in the large new Catholic Hill School, Asheville, N. C.

Office and Plant in New Location.

The office and manufacturing divisions of the Lamson Company, which until September 1 were located in Boston and Lowell, Mass., are now consolidated in its new plant located at Syracuse, N. Y. The new plant was made necessary by steady expansion of the business. For all practical purposes it is two complete factories in one. A machine shop for manufacturing store service systems and a separate building for fabricating the heavier duty industrial conveyors enable the company to handle each branch most efficiently.

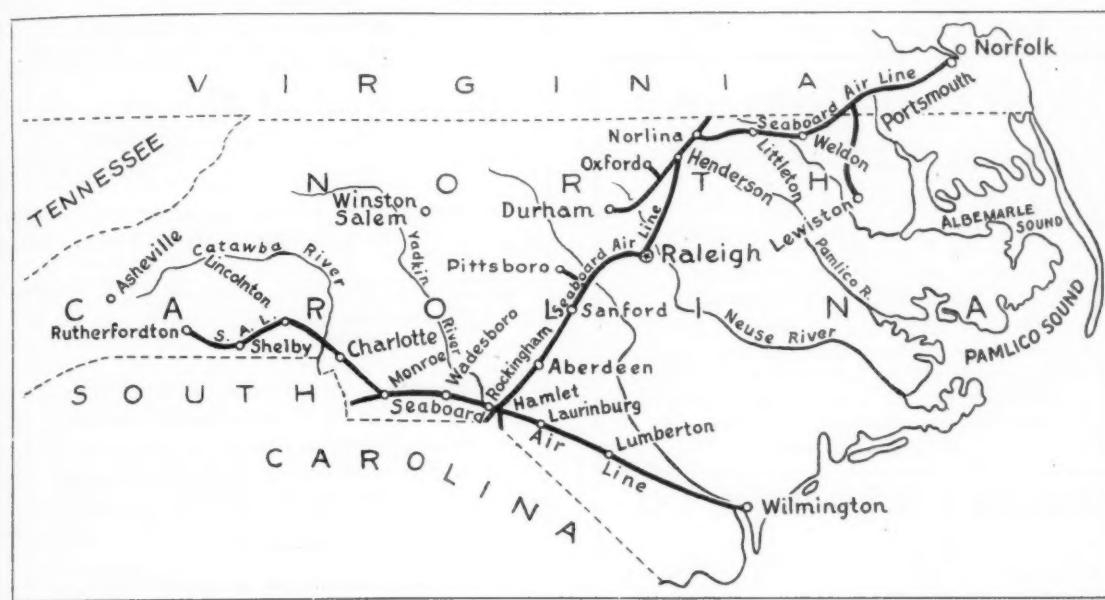
Office Removal.

The office of the North Western Expanded Metal Co. in Atlanta, Ga., is now located at 33 Poplar St., in that city, removal from the Forsyth Building having been accomplished about September 21. In addition to their own large and complete line of metal lath products, corner bead, channels, etc., they are also handling the well-known Crescent line of water-proofing, plaster bond, damp proofing and floor hardener, and the Knapp line of sanitary metal trim such as metal bases, door and window casings, picture mould, together with galvanized wall tiles.

Manufacturers Agency Opened.

J. E. Brady & Sons, who have recently established a manufacturers' agency at 141 East Fourth Street, Cincinnati, Ohio, will handle a full line of pumping machinery, including steam and centrifugal pumps, rotary pumps and contractors' machinery. Mr. Brady was formerly a traveling salesman for a large Cincinnati pump manufacturer and has an unusually wide acquaintance throughout the country, while Edward Brady, his son, has also been on the road for a number of years and is likewise widely known among contractors and other business men.

North Carolina Destined to Be One of the Great Manufacturing States of America



North Carolina is a state of remarkable resources and remarkable achievements.

Stretching from the Atlantic Ocean on the east to the Piedmont Blue Ridge and the heart of the Appalachian Mountains on the west, this state has the advantage of an extensive variety of soil and climate for promoting diversified farming, and likewise a range of mineral and timber resources that offer the bases for many kinds of successful industries.

Power in abundance is made available through developed hydro-electric plants, having transmission lines traversing the greater part of the state, while extensive coal fields are nearby.

Native American labor is plentiful and is readily adaptable to industrial pursuits.

The Seaboard Air Line Railway crossing the state North and South and East and West, covers the main centers of activity, while the state's fine road system, which is being materially added to under a \$50,000,000 bond issue, gives ready access by highway to shipping points.

In the Seaboard territory are many good opportunities for the location of industries and for the establishment of profitable farming operations.

Full co-operation will be extended to those seeking further information.

JESSE M. JONES, General Development Agent
SEABOARD AIR LINE RAILWAY
Room 734 Royster Building **NORFOLK, VA.**



Two Valuable Guides to Safe Investment

WHETHER you know much or little about Public Utility and Municipal Bonds, the two pamphlets illustrated will help you in choosing the issues best suited to your requirements. These pamphlets state the *principles* which may be depended upon in making selections without reference to any specific bonds. We shall be glad to send either or both, without obligation.

Write for booklets MR-10

HALSEY, STUART & CO.

INCORPORATED

CHICAGO NEW YORK BOSTON PHILADELPHIA
209 S. LaSalle St. 14 Wall St. 10 Post Office Sq. Land Title Bldg.
DETROIT ST. LOUIS MILWAUKEE MINNEAPOLIS
Ford Bldg. Security Bldg. 1st Wis. Nat. Bk. Bldg. Metropolitan Bk. Bldg.

FIFTH SOUTHERN TEXTILE EXPOSITION

TEXTILE HALL

GREENVILLE, SOUTH CAROLINA

October 19th to 25th Inclusive

Will open at ten o'clock. Thursday morning, October 19th, will be closed Sunday and re-open Monday. It will end Wednesday night the 25th.

This exposition is one of the most important events of its kind in the world. The South spins and weaves a large portion of the earth's production of cotton.

Here will be seen textile machinery, devices, appliances and supplies. No manufacturer can afford not to be informed of the latest inventions, improvements and equipment. The superintendent, overseer or secondhand who misses this will be handicapped in performing his work. Every mill operative, who can possibly do so, should visit it.

Numbers of mills consider payment of expenses of principal employees to and from the show, a good investment.

It will require several days to see all the show. One day however, is better than none.

We invite all who have an interest in the industrial development of the country to attend.

TEXTILE HALL CORPORATION

Investment Bankers are offered Power and Light Securities

issued by companies with long records of substantial earnings.

We extend the facilities of our organization to those desiring detailed information or reports on any of the companies with which we are identified.

Electric Bond and Share Company

(Paid-up Capital and Surplus, \$29,000,000)

71 Broadway

New York

SECURITY BANK NOTE CO

Office and works: 223-5-7 Chestnut Street
PHILADELPHIA, PA.

Engravers, Printers and Lithographers of Bonds, Stock Certificates and all other Financial Forms to meet the requirements, when necessary, of any of the Stock Exchanges of the country.

Write for quotations with specifications if possible

The Oscar T. Smith Company

Manufacturing Bank Stationers

407-9-11 E. SARATOGA STREET

BALTIMORE, MD.

OSCAR T. SMITH
President

ECO WATCHMAN'S CLOCKS

WRITE FOR CATALOGUE

ECO CLOCK COMPANY

194 Congress Street

BOSTON, MASS.

WANTED BONDS

Offerings of entire issues of the above bonds so solicited

HAROLD G. WISE & COMPANY
Established 1915, HOUSTON, TEXAS

First National Bank

RICHMOND, VIRGINIA

Capital and Surplus, \$3,000,000.

J. M. MILLER, JR., President.

W. M. ADDISON, Vice-President.

CHAS. R. BURNETT, Vice-President.

ALEX. F. RYLAND, Cashier.

MARYLAND TRUST COMPANY

BALTIMORE

Transacts a General Trust and Banking Business

Correspondence and interviews invited

CAPITAL, \$1,000,000

NOTICE TO CONTRACTORS

We want to buy bonds issued by cities, towns, counties, school, road or drainage districts that you may be able to take in exchange for work. Address us at our nearest office.

W. L. SLAYTON & CO.New Orleans, La. Toledo, Ohio Tampa, Fla.
Chicago, Ill. Glasgow, Mont.**HAVE YOU BONDS FOR SALE?**WE BUY ALL CLASSES OF MUNICIPAL BONDS,
INCLUDING CITY, COUNTY, SCHOOL,
PAVING, ROAD AND DRAINAGE**The Hanchett Bond Co. Inc.**
39 SOUTH LA SALLE ST., CHICAGO**JOHN NUVEEN & CO.**

First National Bank Building

CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale

WE BUY MUNICIPAL BONDS

We are interested in the purchase of Southern Municipals including road, school, county, drainage and levee bonds.

M. W. ELKINS & CO.

Southern Trust Bldg.

Little Rock, Ark.

TODD & MCCOLLOUGH

Members of

AMERICAN SOCIETY OF CERTIFIED PUBLIC ACCOUNTANTS

Auditing, Cost and Accounting Systems,
and Federal Tax Service.

No. 328 South Tryon St.

Charlotte, N. C.

HAMMERMILL LETTER HEADS

For Bank, Mill, Mine, Factory and Commercial House

8 1/2 x 11—Full 20 lb. Weight

1000—\$5.35 5000—\$16.75

2000—8.70 10000—28.50

Shipped 48 Hours After Receipt of Order

Charges prepaid to your railroad station

Samples on request

LAREW PRINTING CO., Knoxville, Tenn.

*Sell us your
Municipal Bonds***THE TITLE GUARANTEE
& TRUST CO.**

Capital and Surplus - - - - - \$584,000.00

S. E. Corner Court and Main Sts.
Cincinnati, Ohio**We Buy****SOUTHERN
MUNICIPAL
BONDS****CALDWELL & CO., NASHVILLE, TENN.**New York Cincinnati Chicago St. Louis
Detroit Chattanooga Knoxville**WE BUY****Municipal Bonds****THE LEWIS S. ROSENSTIEL COMPANY**
UNION TRUST BUILDING CINCINNATI, O.**We
Buy
Bonds****Southern and Western
Municipal Bonds**

Wire at our expense

CAMPBELL & KINSEY

Toledo, Ohio

Branches: 618 Penobscot Bldg. Detroit; 313 Dixie Terminal, Cincinnati.

We Buy BondsCity, County, School and Road, from
Municipalities and Contractors

WRITE

THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO**WE BUY MUNICIPAL BONDS**Write us if your community is con-
templating issuing bonds or has
bonds to sell.**THE W. H. SILVERMAN CO.**

309 Mercantile Library Bldg., Cincinnati, Ohio

Seasongood & Mayer

Ingalls Bldg., Cincinnati, O.

BUY County City School BONDS

Write us if you have any for sale.

\$3,000,000 to Be Expended by Power and Light Company of Dallas.

Dallas, Texas, Sept. 22.—[Special.]—In order to keep pace with the present and future growth of the city the Dallas Power and Light Company has adopted plans for improvements and enlargements which will cost approximately \$3,000,000. The principal improvement will be the construction of an extension of the central power plant. It will be of 15,000 kilowatts and will cost about \$2,000,000, it is announced. Among the other items are an additional 1000 kilowatt motor generator set for the East Dallas sub-station; a new tieline to the Jackson street substation to assure continuity of service; a new 60-thousand-volt circuit to Trinity Heights which ties in with the transmission system of the Texas Power and Light Company and relocation of the circuit to Oak Cliff sub-station, two transformers at main power station, one for reserve, the other to replace one recently burned.

Additional transformer capacity is to be installed at the East Dallas and Oak Cliff sub-stations that have outgrown the capacity of existing facilities. A new 12,000-volt tieline will be built to supplement the present North Dallas line and make adequate connections between the power plant and East Dallas sub-station, leaving the tieline by way of South Dallas as an emergency connecting line.

Christian Science Church for St. Louis.

The Sixth Church of Christ Scientist will erect a \$200,000 structure in St. Louis, Mo. on Natural Bridge Ave. near the site of the proposed \$1,500,000 high school. It will be 100 by 130 feet and 64 feet high with a seating capacity in the auditorium of 1000 people. The Dickie Construction Co. of St. Louis, are the contractors; the architects are Wedemeyer & Nelson, St. Louis and George F. Dunham of Portland, Ore.

Natural Gas Pipe Line Now Building From Monroe, La., District to Beaumont.

Beaumont, Tex., Sept. 21.—[Special.]—Construction of a 20-inch natural gas pipe line from the wells in the Monroe, La., field, to Beaumont and Port Arthur, about 220 miles, by the Arkansas, Louisiana & Texas Development Co. is under way. It is stated that right-of-way for the entire distance has been acquired. The construction is in charge of W. L. McCloy, engineer, of Pittsburgh, Pa. The Frost-Johnson Lumber Co., of Shreveport, La., of which the Arkansas, Louisiana & Texas Development Co. is subsidiary controls the natural gas rights on 200,000 acres of land in and adjacent to the proved gas field at Monroe. It is planned to ultimately extend the pipe line to Houston, 80 miles west of Beaumont.

The natural gas will be supplied the large oil refineries and other industries here, thus releasing enormous quantities of crude oil which are now used for fuel.

Report Against Lower Pullman Rates.

According to a tentative report to the Interstate Commerce Commission by Robert E. Quirk, chief examiner, Pullman parlor and sleeping car rates prevailing at present are not unreasonable nor excessive and dismissal of the complaint made by the United Commercial Travelers of America is recommended. The report pointed out that to abolish the 20 per cent rate increase granted May 1 1920, without reductions in operating expenses, "would not only unduly impair defendant's operating income but would create a deficit."

A six-story building to cost \$150,000 will be erected by the Chattanooga Trust Company at Market and Sixth Streets, Chattanooga, Tenn. The new structure will be used either as an office building or department store and will be of fire-proof construction.

“Is the Product Right?”

It is a maxim of advertising that a poor product cannot be successfully advertised. It may flash upon the scene with brilliance, become the talk of the hour, and to all appearances be destined to set new records, but unless it is and does what is claimed for it, no amount of printer's ink and artist's colors can give it permanence.

Once in a while some article of merchandise will appear to defy this rule, but not for long. Public response, at first, perhaps, quick and active, becomes slower and slower. Sales fall off. The business grows sick, and in a few months or a few years, the very

name of the product is forgotten.

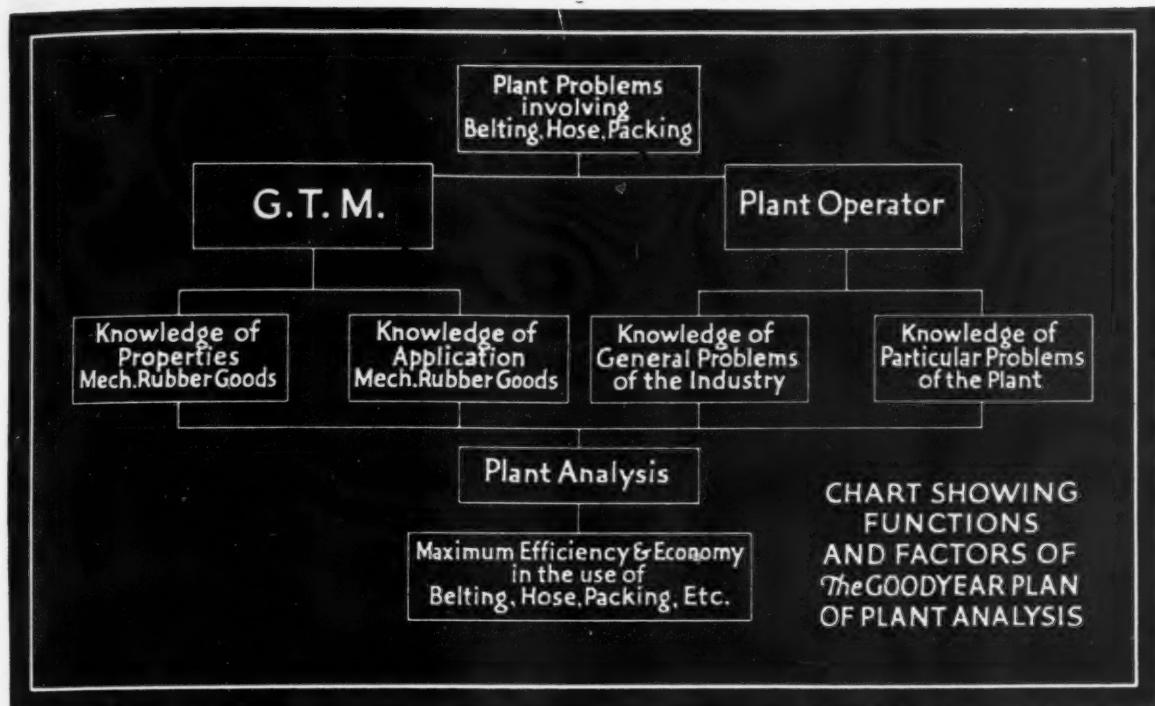
Advertising men know this so well that today the first question upon which they must be satisfied before they will recommend advertising to any manufacturer is—Is the product right?

And merchandise that is right—merchandise that will satisfy in service—merchandise that will bring customers back for another purchase is the first requirement of the jobber and the retailer who expect to endure and flourish.

* * *

There is no better assurance of this kind of merchandise than an advertising pledge to the public.

[Published by the MANUFACTURERS RECORD in co-operation
with The American Association of Advertising Agencies]



Copyright 1922, by The Goodyear Tire & Rubber Co., Inc.

Plant Analysis Service — and the G.T.M.

Look at this chart. It pictures, in the language of the plant superintendent and the industrial engineer, the place occupied by the G.T.M.—Goodyear Technical Man—with relation to your belting, hose and packing problems.

It identifies the G.T.M. for what he is, the tested link in the chain of service connecting your need for efficient plant operation, and your knowledge of the special working conditions of your plant, with the Goodyear Plan of Plant Analysis and the products Goodyear makes for industrial use.

The G.T.M. is an expert in his line. He knows the properties of good mechanical goods. He is trained in the science of their specification and application. His work takes him into many plants, in many industries, so that he is familiar with most transmission and conveying problems, and is a practical authority on many of them.

When he comes to your plant, he comes as a friendly analyst of your operating problems, your troubles, maybe. He doesn't pretend to know it all. He takes the advice of your superintendent and engineer. He gives close attention to their experienced knowledge of your particular working conditions.

His sole object is to fit what he knows about belting, hose or packing to the demonstrated conditions of service in your plant. If he can find out what you need, and Goodyear can furnish it, he will recommend it to you, and after its installation he will follow it up with a sincere service.

Isn't it logical that a belt, or other equipment, that is constructed right in the first place, and then is specified intelligently to the work it is to do, is much more likely than any other product is to serve you longer and better, with freedom from trouble, and return to you the full value of its utmost efficiency and economy? The Goodyear Analysis Plan is based on that reasoning, and the G.T.M.'s work is to insure that you get the equipment that will serve you longest and best.

There is a G.T.M. in your neighborhood. Call on him for an analysis of your mechanical goods problem, whether it involves a single unit or an entire plant, a conveyor or a transmission, a hose or a packing equipment. For further information about the G.T.M., and his work, or the kind of service Goodyear products give in your particular industry, write to Goodyear, Akron, Ohio, or Los Angeles, California.

GOOD • **YEAR**

What Miller Bonds Have Done for the South

In the wide expansion in which the South is engaged, G. L. Miller & Company has played no small part. For nearly a score of years, we have advanced funds to erect modern, fire-proof structures in the larger growing cities.

From every state in the Union—and from twenty-four foreign countries—money is gathered from the sale of Miller Bonds to thousands of investors and brought into the South to be spent here to the benefit of nearly every business.

During the first six months of 1922, the "Miller Plan" financed over \$4,000,000 worth of the South's finest structures.

TESTED BY PANICS AND SEASONED BY PROSPERITY

G. L. Miller & Company, because it has gone through three panics and several depressions without lessening its growth; because it has a record of never a loss to an investor; and because it finances a majority of the larger buildings in the South, has achieved an established reputation as the pre-eminent leader in the Southern construction financing field.

An interesting booklet entitled "Creating Good Investments" explains the methods by which Miller Bonds are created and safeguarded and will be sent to all who clip and mail the coupon in the lower left hand corner.

Builders contemplating the erection of large, income-earning structures will find our new book "The Miller Plan" of vital interest and assistance. The coupon at the right should be sent in when requesting this book.

FIRST MORTGAGE REAL ESTATE BONDS

Sold in Denominations of \$100, \$500 and \$1,000. Maturities Range from Two to Fifteen Years. INTEREST YIELD, 7% to 7½%.

G. L. MILLER & CO.
INCORPORATED

1009 Hurt Building, Atlanta, Ga.

G. L.
Miller &
Co., Inc.,
1009 Hurt Bldg.,
Atlanta, Ga.

Please send me a copy of
"Creating Good Investments";
no obligation on my part.

Name _____

Street _____

City & State _____

The South's Oldest and
Largest Real Estate
Mortgage Bond
House

G. L.
Miller &
Co., Inc.,
1009 Hurt Bldg.,
Atlanta, Ga.

Please send me a copy of
the "Miller Plan" describing
your co-operation with builders.

Name _____

Street _____

City & State _____

September 28, 1922.

MANUFACTURERS RECORD.

89

PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS

Bids close October 10, 1922.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., Sept. 14, 1922.—SEALED PROPOSALS will be opened in this office at 3 p. m., Oct. 10, 1922, for the installation complete of four full magnet control electric elevators for the U. S. Veterans' Hospital, Jefferson Barracks, St. Louis, Mo. Drawings and specifications may be obtained at this office in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close October 7, 1922.

PROPOSALS FOR PORTLAND CEMENT. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 o'clock a. m., October 7th, 1922, at which time they will be opened in public, for furnishing the above-mentioned cement. Blanks and information relating to this Circular (1497) may be obtained from this Office or the offices of the assistant purchasing agents, 24 State Street, New York City; 611 Gravier Street, New Orleans, La.; and Fort Mason, San Francisco, Calif.; also from the United States engineer offices in the principal cities throughout the United States.—A. L. Flint, General Purchasing Officer.

Bids close October 6, 1922.

\$50,000 5% Bonds

LAFOURCHE BASIN LEVEE DISTRICT. Sealed bids will be received by the Lafourche Basin Levee District, up to noon on FRIDAY, OCTOBER 6, 1922, at its office in Donaldsonville, La., for the sale of Five Hundred Thousand (\$500,000) Dollars, 5% bonds of said district, authorized under the provisions of Act No. 70 of 1922.

The said bonds to be serial bonds, and a portion of an issue of Seven Hundred Fifty Thousand (\$750,000) Dollars bonds, which said district is authorized to issue under the provisions of the above-mentioned Act, of which one fifteenth of entire issue shall be due and payable thirty-three years after their date and one-fifteenth of whole issue shall be due and payable in each succeeding year.

Said bonds to be dated October 15, 1922, and the interest thereon to be evidenced by coupons attached, payable semi-annually at the office of the State Treasurer. Bonds to be of denomination of not less than One Hundred (\$100) Dollars.

All bids to be accompanied by a certified check for Five Thousand (\$5000) Dollars. The right is reserved to reject any and all bids.

J. E. WELDON, President.
C. C. WEBER, Secretary.

Bids close October 16, 1922.

\$28,000 6% Improvement Bonds

Chipley, Fla.

Notice is hereby given that sealed bids will be received by the City of Chipley, Fla., until 12 o'clock noon, Monday, October 16, 1922, for the sale of Twenty-Eight Thousand Dollars Improvement Bonds of said City, bearing six per cent interest from their date, payable semi-annually, dated September 1, 1922. Fifty of said bonds are in denomination of \$500 each, and ten of said bonds are in denomination of \$300 each, and five \$300 bonds and one \$300 bond will mature each year, commencing one year after date, until the whole issue is matured. Said bonds are payable at the Chase National Bank, New York City.

These bonds are issued for the purpose of making payment for certain street paving and storm sewers constructed in said City and are secured by improvement liens as well as the general credit of the City of Chipley.

Bids will be received for the whole or any part of the issue and a certified check for five per cent of each bid, payable to the City of Chipley, shall accompany each bid as a guarantee of good faith.

The City Council reserves the right to reject any and all bids. Address bids to the Clerk of the City of Chipley, Chipley, Florida.

EB STANDERFER, Clerk.

RATE: 35 cents per line per insertion.

PUBLICATION DAY: Thursday.

FORMS CLOSE 4 P. M. Monday.

DAY LETTER: When too late to send copy by mail to reach us by 4 P. M. Monday, forward by day letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers' Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—35 cents per line per insertion.

Bids close Oct. 13, 1922.

PROPOSALS FOR oil-handling pump, vegetable and meat cookers, manila rope, steel rivets and bolts, wire mails, electric motor, fans, cable, wire, electrical supplies, ammeter, voltmeter, steel conduit, flexible non-metallic conduit, automatic arc controls, vacuum tubes, micro unions, spark plugs, wire grips, embossing press, closet bowls, valves, solid rubber tires, poultry netting, brushes, mop heads, rubber gaskets, pens, cotton bed sheets, wiping rags, soldering paste, soap, paint, varnish, graphite, acetic acid, ash number, oats, rice, straw hay, and Douglas fir lumber. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 o'clock a. m., October 13, 1922, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (1496) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 611 Gravier Street, New Orleans, La.; and Fort Mason, San Francisco, Calif.; also from the United States Engineer Offices in the principal cities throughout the United States.—A. L. Flint, General Purchasing Officer.

Bids close October 18, 1922.

OFFICE OF THE CONSTRUCTING QUARTERMASTER, ABERDEEN PROVING GROUND, MD. Sealed proposals will be received in this office until 10:00 A. M., October 18, 1922, and then opened, for the construction of twenty sets of officers' quarters, at Edgewood Arsenal, Md. Plans and specifications may be obtained at this office, upon the deposit of \$10.00, which will be refunded upon return of same in good conditions, or they may be seen at the Quartermaster's office, Edgewood Arsenal, Md. The right is reserved to accept any or to reject all bids for this project.

Bids close October 3, 1922.

\$30,000 6% Street Improvement Bonds

Logan, W. Va.

Notice is hereby given that by virtue of the authority vested in me by an ordinance passed by the Board of the City of Logan, W. Va., on the 8th day of August, 1922, I shall receive sealed bids for Thirty Thousand (\$30,000) Dollars in bonds of said City, said bonds having been authorized by an election held in said City on the 15th day of April, 1922, and are to be of the denomination of One Hundred (\$100) Dollars or multiples thereof, and bear interest at the rate of six (6%) per cent per annum, payable at the office of the Treasurer of the State of West Virginia or at the National City Bank of New York at the option of the holder, and said bonds shall mature and be payable in not exceeding ten years from date of issue, but the right is reserved by the Board of said City to pay off said bonds, or any of them, at any time after one year from date thereof.

All bids shall be written and subscribed to the undersigned on or before the 3rd day of October, 1922, and shall be for cash upon delivery of bonds.

J. A. HOGG,
Mayor of the City of Logan, W. Va.

Bid close October 10, 1922.

U. S. Engineer Office, Mobile, Ala.—Sealed proposals will be received here until 11 o'clock A. M., October 10, 1922, and then opened, for the construction of one 100-foot Diesel Electric towboat. Further information on application.

Bids close October 16, 1922.

\$196,000 Drainage Bonds

West Palm Beach, Fla.

Bids will be received by the Treasurer of the Highland Glades Drainage District on Monday, October 16, 1922, at 11 o'clock A. M., at Room No. 1, Post Office Building, West Palm Beach, Fla., for the sale of \$196,000 drainage bonds of the Highland Glades Drainage District.

The right is reserved to reject any and all bids.

A certified check for two per cent of the total amount to accompany each bid.

C. E. CHILLINGWORTH,
Treasurer.

\$750,000 5% Road Bonds

MADISON COUNTY, FLORIDA

Madison, Fla., September 9, 1922. The Board of County Commissioners of Madison County, Florida, will receive sealed bids for \$330,000 5% Thirty Year County Road Bonds, dated July 1, 1922; accrued interest from date of bonds to date of sale to be considered in bid. Bids addressed to the undersigned clerk.

Bids will be opened October 2, 1922, at 10 o'clock A. M., certified check made to L. A. Fraleigh, Chairman, for 5% of amount of bid must accompany the bid.

Bonds have been validated by the Circuit Court and a favorable opinion of Col. John R. Thomson, of New York, up to date.

The Board of County Commissioners reserves the right to reject any and all bids.

D. F. BURNETT, JR.,
County Clerk.

Bids close October 7, 1922.

\$58,000 6% Water Works Bonds

Bay St. Louis, Miss., Sept. 8, 1922.

Notice is hereby given that the City of Bay St. Louis, Miss., will receive bids on as much as fifty-eight thousand (\$58,000) dollars, 6% Water Works Bonds, or parts thereof, as follows:

The city will sell not more than fifty-eight thousand (\$58,000) dollars of said bonds and not less than ten thousand (\$10,000) dollars, the City reserving the right to sell as much of said bonds between said amounts as it may so wish. Bidders may bid for said bonds in the full amount of ten thousand (\$10,000) dollars or more. The City reserving the right to accept any bid or bids or rejecting any and all bids.

Bids to be filed with the Secretary of the City of Bay St. Louis, on or before Saturday, October 7, 1922, at 2:30 P. M. A certified or cashier's check in the amount of \$500 must accompany bid.

S. J. LADNER, Secretary.

Bids close October 16, 1922.

Road Improvement.

Calmont, Tenn.

Sealed bids will be received by the Grundy County Highway Commission at Calmont, Tenn., until 2 P. M., October 16th, 1922, for the grading and drainage of five and one-half miles of highway from the foot of the mountains in Payne's cove to the Franklin County line.

The Commission will reserve the right to let the drainage separate from the grading and also will reserve the right to reject any or all bids.

A certified check for one thousand dollars, made payable to Grundy County Highway Commission, must accompany each bid (except those bidders bidding on drainage alone will be required to furnish certified check for five hundred dollars) as a guaranty of good faith.

Address

J. B. COCHRAN,
County Engineer.

PROPOSALS

September 28, 1922.
Manufacturers Record

Bids close October 16, 1922.

Road Improvements

Dade City, Fla.

Highlands Special Road and Bridge District, Pasco County, Florida, will receive bids on approximately 100 miles road improvements until 10 o'clock A. M., Monday, October the 16th, 1922.

A. J. BURNSIDE, Clerk.
Board County Commissioners.
J. W. TURNER, Engineer.
Lakeland, Fla.

Bids close October 10, 1922.

Concrete Structures: Filter Equipment and Brick Filter House

Greensboro, N. C.

Proposals will be received by the City Council of Greensboro, N. C., until 12 o'clock M., Tuesday, October 10, 1922, for building a filtration plant and appurtenances.

The work includes the construction and equipment of a six million gallon filter plant, the construction of a coagulation basin with dividing wall, capacity 1,148,000 gallons, and the construction of a mixing chamber. The principal quantities involved are:

8,000 cubic yards of earth excavation.
1,900 cubic yards of concrete.
225,000 pounds of reinforcing steel.
The equipment of six 1,000,000 gallon filter units.
80,000 brick, laid in filter house walls.
Steel wash water tank of 70,000 gallons capacity.

1,000 G. P. M. motor-operated pump.

Piping, valves, and miscellaneous items. Plans will be on file and may be seen at the office of the City Manager, Greensboro, N. C., or at the office of the Lindlow Engineers, Winston-Salem, N. C., after September 15. After that date copies of the specifications, bid blank, and contract may be obtained from the Engineers or City Manager. For the convenience of prospective bidders, the Engineers will furnish copies of the plans upon application accompanied by a check for ten (\$10.00) dollars to cover the cost, or separate prints at one (\$1.00) dollar each.

Each bid must be accompanied by a certified check in the sum of \$5000, or 5% of the amount of partial bids.

Proposals will be opened publicly with the usual rights reserved.

P. C. PAINTER.
City Manager.

J. L. LUDLOW,
Consulting Engineer.

Bids close October 2, 1922.

Natural Gas Distribution System

Alexandria, La.

Sealed proposals will be received by the Commission Council of the City of Alexandria, La., up to 7.20 p. m., of Monday, October 2, 1922, for the furnishing of all labor, tools, etc., and the construction complete and ready for operation of a natural gas distribution system for the City of Alexandria, La., as follows.

Laying the following cast iron pipe:

77,826 lin. feet 4-inch.
44,000 lin. feet 6-inch.
13,370 lin. feet 8-inch.

6,826 lin. feet 10-inch.

including the placing of all valves, specials, etc.

Welding and laying the following wrought iron or steel pipe.

20,000 lin. feet 2-inch.
6,000 lin. feet 4-inch.
8,200 lin. feet 6-inch.
8,100 lin. feet 8-inch.
5,700 lin. feet 10-inch.
4,600 lin. feet 12-inch.

including the placing of all valves, specials, etc.

Each bid must be accompanied by certified check payable to the City of Alexandria, La., in the sum of five per cent of the amount bid.

Bond in the sum of fifty per cent of the contract price will be required for the faithful performance of the work.

The city reserves the right to reject any and all bids.

For further information apply to W. H. Sylvester, City Engineer, or

V. M. AKE, Secretary-Treasurer,
Alexandria, La.

Bids close October 2, 1922.

Pavement With Vertical Fibre Brick of Seventh Street

Alexandria, La.

Sealed bids will be received by the Commission Council of the City of Alexandria, La., up to 7.30 p. m., of Monday, October 2nd, 1922, for the paving with vertical fibre brick of Seventh St., in the City of Alexandria, La., consisting of the following approximate quantities:

15,300 sq. yds. brick paving on 5-inch

concrete base.

492 cubic yds. concrete in A and B

drains.

43,500 lbs. reinforcing steel in A & B

drains.

94,400 lbs. cast iron in grates, etc.

570 ft. st. stone headers.

Work will be done and paid for under the provisions of Act 187 of 1920 of the General Assembly of the State of Louisiana, as amended.

Certified check made payable to the City of Alexandria, La., in the sum of Twenty five Hundred Dollars, shall accompany each bid.

Bond in the sum of fifty per cent of the contract price of the work will be required to ensure the faithful performance of the contract.

The city reserves the right to reject any and all bids.

For further information apply to W. H. Sylvester, City Engineer, or
V. M. AKE, Secretary-Treasurer,
Alexandria, Va.

Bids close October 12, 1922.

Water Supply

Palatka, Fla.

The Water Committee of the City Council of the City of Palatka, Fla., will receive bids at the office of the City Clerk at Twelve o'clock noon on October 12th, 1922, for the drilling of one ten (10) inch well and all necessary labor, equipment, casing and specials necessary to drill same, excepting that the City will furnish steam for performing the work.

The well to be at least three hundred (300) feet deep and to have a continuous flow of not less than twelve hundred (1200) gallons per minute at an elevation of twelve (12) feet above mean low tide in St. Johns River at Palatka.

A certified check, payable to the Treasurer of the City of Palatka, Fla., in an amount equal to five per cent of the total bid must accompany each bid.

The Water Committee reserves the right to reject any or all bids.

For further information address City Engineer, Palatka, Fla.

Bids close October 10, 1922.

Materials and Construction
Proposed Water Works and
Sewerage Systems

NOTICE TO CONTRACTORS

Covington, La.

Sealed proposals will be received by the Mayor and Town Council, Covington, La., on or before 7.30 P. M., Tuesday the 10th of October, 1922, and then publicly opened, for furnishing machinery, materials and equipment, and constructing a water works and sewerage system for the said Town in accordance with plans and specifications on file in the office of the Secretary of the Town of Covington, La.

The works include furnishing cast iron and galvanized pipe and fittings, fire hydrants, valves and boxes, motor driven pumping sets, reservoir, elevated tanks, pump house, sewer pipe and branches, sewage pumps, and constructing the systems complete.

Each proposal must be accompanied by a certified check for three (3%) per cent of the bid, made payable to the Hon. L. A. Perreand, Secretary of the Town Council of Covington, La., as evidence of good faith.

Specifications, form of proposal, contract and plans may be seen at the office of the Mayor of Covington, La., or will be mailed upon application to the Engineers, The Kramer Engineering Company, Magnolia, Miss., upon a deposit of \$15.00 to insure their safe return.

The Council reserves the right to reject any and all bids, or to waive formalities, and to make any award which in their opinion is to the best interest of the Town of Covington.

ROBERT W. BADON, Mayor.
L. A. PERREAND, Secretary.
THE KRAMER ENGINEERING CO.,
Consulting Engineers,
Magnolia, Miss.

Bids close October 2, 1922.

Construction of a Storm Sewer on
Seventh Street

Alexandria, La.

Sealed proposals will be received by the Commission Council of the city of Alexandria, La., up to 7.30 p. m., of Monday, Oct. 2nd, 1922, for the furnishing of all labor, material and equipment and the construction complete of a storm sewer on Seventh street in the city of Alexandria, La., consisting of the following approximate quantities:

3483 cubic yds. concrete
389,700 lbs. reinforcing

9000 cubic yds. excavation

Each bid shall be accompanied by certified check in the sum of Twenty-five hundred dollars, payable to the city of Alexandria.

Bond in the amount of fifty per cent of the contract price will be required for the faithful performance of the work.

The city reserves the right to reject any and all bids.

For further information apply to W. H. Sylvester, City Engineer, Alexandria, La., or
V. M. AKE, Secretary-Treasurer,
Alexandria, La.

September 28, 1922.

MANUFACTURERS RECORD.

91

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS
WATER POWERS, MISCELLANEOUS PROPERTIES,

FOR SALE

Large tract of land (over 1000 acres) with undeveloped water power in center of tract. Land situated 16 miles from Greenville, S. C., in the healthiest section of the foot-hills of the Blue Ridge. Property lies west of the main line of the Greenville & Northern Ry., and could easily be reached by building a siding one mile in length. Lockwood, Green & Co., of textile engineering fame, had surveyed and drawn blue-prints for a 10,000 spindle cotton mill, but property changed hands, and present owner prefers to sell out-right. For detailed information write

J. NOPWOOD CLEVELAND,
Marietta, S. C.

COAL LANDS AND MINES

FOR SALE

Going coal mine, Coal, oil and gas lands. C. A. Croft, Box No. 3, Madison W. Va.

5000 acres bituminous coal, four miles from railroad southwest Texas. 3 feet surface cropping, drilling in district shows 25 feet of coal: a bargain. G. Denton, owner, Kampmann Building, San Antonio, Tex.

LEASE OR SALE

600 acres of coal land in the heart of the Wise County Coal Field, near Glamorgan, Va. Would consider sale or lease, lease preferred, carries all the seams in the field, near Interstate Railroad. Price and description on request. W. H. Roberts, Wise, Va.

FOR SALE—Going coal mines—coal, oil and gas lands—timber tracts. Reports made on same anywhere. E. H. Morris, Box 518, Charleston, W. Va.

TIMBER

Hardwood timber on 17,000 acres of land from which larger mill logs are being removed. A good proposition for handle or slack barrel factory. Reasonable arrangements may be made by responsible purchasers. Write care P. O. Box 609. Openous, La.

100,000,000 feet Louisiana hardwood, on railroad and river, \$300,000. W. L. Archibald, Oxford, Miss.

TIMBER LAND

BIG HARDWOOD TIMBER TRACT
Approximately 50,000 acres of virgin, heavy growth hardwood timber, oak and gum predominating. Rail and river transportation touches tract. Big proposition for big operator. Best of the few large tracts left in lower Mississippi Valley. W. H. Chas. S. Field, Lake Village, Ark., for particulars.

Virgin Yellow Pine, Cypress and Hardwood timber, on transportation and at fair prices; also cut-over lands. For prices and full details address Arthur T. Williams, P. O. Box 42, Jacksonville, Fla. 30 years handling timber lands in Florida. Reference any bank in Jacksonville.

6500 acres near Charleston, S. C. 35,000,000 feet extra fine pine timber. Best grade, 10,000,000 feet hardwood, principally cypress. Will cut 1,000,000 cross-ties high-grade. Near market. Logging conditions excellent. Good quality land and healthy location. Splendid buy for mill-man. Extra bargain as investment. J. R. Barbour, Benson, N. C.

TRADE OR SALE

Well equipped black land dairy, hay, stock and general farms in East Mississippi. Also timber tracts in several southern states from one to fifty sections. Attractive terms. L. Roberts, Crawford, Miss.

RATES AND CONDITIONS

Rate 50 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. *When the advertisement contains a number of long words, proper allowance should be made.* Terms: Invariably cash with order: check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, oil or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 25c. per line; 200 lines, 20c. per line; 300 lines or more, 20c. per line.

TIMBER LAND

100 million feet virgin long leaf yellow pine on 34,560 acres, two miles railroad, three miles water. \$7.00 per acre in fee simple. J. B. Brewton, Vidalia, Ga.

FARM AND TIMBER LAND

FOR SALE—Located in Manatee County, 22,000 acres of fine pine timber land, seventy-two million feet conservative estimate. Fine land for agricultural purposes, best turpentine proposition in south Florida: on railroad. If interested write F. Emory Sharp, Bradenton, Fla.

FARM FRUIT, AND TRUCK LAND

FLORIDA

FLORIDA—Come to Florida, "where its summertime the wintertime, and pleasant all the year round;" no coal bills; no wintry ice or snow—just sunshine, and health and opportunity. Send for booklet, "Largest Orange Tree in the World," and list of homes, groves and farms. Tampa-West Coast Realty Co. (Inc.) opposite Post Office" Since before the War," Tampa, Fla.

If you want a real paying farm or grove in South Florida write F. Emory Sharp, Bradenton, Fla. Reference First National Bank this city.

FOR SALE—2400 acres of good celery land, can get good flow well on it, will make an ideal sub-division; good spring on the land; will flow 5,000,000 gallons water every 24 hours. This spring has great medical properties in it. The spring alone will be worth some day what we ask for the whole thing. This property right on R. R. and the Dixie Highway. Answer quick, as this must sell and will sell right away. Address E. Stafford, Lake Monroe, Fla.

Rich, deep muck Everglade land, 10 acres to 25,000 acres, near Pennsylvania Sugar Company's \$1,250,000 sugar mill, north and west of Miami, Fla.—Price \$15.00 per acre up. Stewart N. Holopeter & McCune, Realtors, 136 N. E. 1st St., Miami, Fla.

FINEST REAL ESTATE INVESTMENT IN THE SOUTH.
"FAMOUS MOORE HAVEN, FLORIDA, LANDS"

—WHOLESALE ONLY—
OWNERS RETIRING FROM
REAL ESTATE BUSINESS

12,000 acres of black Moore Haven soil, well located, fronting Caloosahatchie River; and County hard road to Lakeport. Will send you Manufacturers Record article of March 17th, 1921, describing Moore Haven lands, written by their staff representative, entitled "AN EMPIRE IN THE BUILDING." Also article about Moore Haven and Everglade lands in Manufacturers Record, August 17th, 1922, by Florida State Engineer F. C. Elliott. For complete description of lands and price with easy terms, address H. G. Gates, General Sales Manager, South Florida Farms Co., Moore Haven, Fla.

FARM, FRUIT AND TRUCK LAND

FLORIDA

Five to six thousand acres high grade citrus and truck lands, in flowing well district, on Dixie Highway and A. C. L. Railroad between Orlando and Tampa. Splendid terms and a wonderful price to a quick buyer. Best colonization proposition in Florida. Wilmott & Co. Since 1883. Orlando, Fla.

FLORIDA—Sugar mills operating in Everglades of Florida this fall. Muck lands in the "Sugar Bowl" of the U. S., best for cane and vegetables; tracts 610 acres up can still be bought for \$25. acre. P. F. Quinn, Realtor, West Palm Beach, Fla.

GEORGIA

400 acres—Suited for sub-division, apple-generally farming, some timber. Johns Wellingham Industrial School. Near National Forest Reserve. Right at city limits. A rare chance. Johnson Bank, Blue Ridge, Ga.

MISSOURI

FARM—28 acres, on public road, on creek for fishing and hunting; real club ground, \$2500. John Crowder, Defiance, Mo.

NEW MEXICO

For Sale—240 acres level land, rich virgin soil; fenced except wire; eased 80-foot well on line, soft water; no buildings; on county highway midway between Deming and Silver City; auto pass every few minutes; two miles from Faywood Hot Springs P. O., seldom snows; always cool in shade. \$2000. E. Brumback, Silver City, N. Mex.

SOUTH CAROLINA

Truck farms that pay dividends annually can be bought at reasonable prices here. Vegetables are shipped eight months in the year. Three and four crops are grown on the same land annually. Excellent climate and health. Plenty of labor; strikes unknown. Well organized association that sells all farm products. For particulars write, Lake Realty Company, Beaufort, S. C.

VIRGINIA

FINE VALLEY OF VIRGINIA FARM—482 acres, 5 1/2 miles from Lexington, Va., and 8 miles from Natural Bridge, Va. 250 acres practically level. Limestone soil. 100 acres woodland: pastures 75 to 100 head of stock, variety family orchard; 12 room brick house, beautiful lawn well shaded. Bank cattle barn 50x80 feet; 12 stall horse barn, and also three other outhouses. About 150 acres sodded in blue grass, price \$26,500.00.

We specialize in Virginia farms.
OGLESBY REAL ESTATE AGENCY, INC.
LYNCHBURG, VA.

BUSINESS OPPORTUNITIES

If interested in the

BEST SECTION OF THE SOUTH!

If you want a Cotton Mill,
or Southern Mill Stocks
or Investment in Central Real Estate
or Large Suburban Development property
or a Manufacturing Site

Address
F. C. ABBOTT & COMPANY
Trust Building, Charlotte, N. C.

Retiring manufacturing chemist, 20 years experience, has for sale formulas for fine Toilet Preparations, Perfumes, Flavoring Extracts and Medicinal Preparations second to none. Several specialties not made by any other houses. Will sell part or all formulas. Would establish laboratories. Samples submitted. Address Chemist, Room 828 James Building, Chattanooga, Tenn.

Fourteen years' continuous experience in taking complete charge of large real estate propositions and disposing of them at auction. Complete organization, all experienced men. Large estates and farms a specialty. Address Oliver T. Wallace, Wilmington, N. C. or 322 Woodward Building, Washington, D. C.

BUSINESS OPPORTUNITIES

Wanted—In every Southern City, Local Dealer, Manufacturer's Agent or responsible salesman specializing in building materials and having favorable acquaintance with architects, contractors and builders, to take on a high-class building material of established merit, used in wide range of structures, backed by strong concern having large, well equipped factory, Commission basis. Factory will supply samples, literature and all needed assistance in getting started. Hard work will net satisfactory return. Give complete information concerning selling experience. Address 6071, care of Manufacturers Record, Baltimore, Md.

RELIABLE LIST OF FARM OWNERS of Sabine County, Arkansas; 1500 names and addresses in alphabetical form, \$5.00; have used this list myself with satisfactory results. Robert M. Dorris, Benton, Ark.

WANTED—FINANCIAL ASSISTANCE

2000 acres Magnetic Low Phos Iron, in Carter County, Tenn.; Assays Iron (Metallic) 64.72%; Silica 7.92%; Phosphorus .015%. Extensive development, many veins averaging from 9 feet to 20 feet in thickness. Ample water, electric power, two railroads now within 1½ miles of property. Price of minerals and all rights \$75,000; \$20,000 already contracted, need balance by Nov. 1st, for full payment of property. Object in near future to operate property. Wonderful opportunity; at present stage worth at least half-million. Bank references. Further information address C. H. White, Elizabethton, Tenn.

I SPECIALIZE in industrial, warehouse and business sites at and adjacent to Washington, D. C.

M. B. HARLOW.
Harlow Building, Colorado Building,
Alexandria, Va. Washington, D. C.

For sale or will trade for good water power, timber tract, or same value, my equity in first-class apartment house building in Chicago valued at over \$30,000. Address No. 6667, care Manufacturers Record, Baltimore, Md.

Interest open in Marine Transportation and Commission Company. Business enough from South to earn \$300.00 Net Annually. 25% on capital invested. Alfred S. Perry, Perry Building, Fairfield, Conn.

FINANCIAL

BONDS—Have buyers for manufacturing, mercantile, industrial, mining; entire issues. A. W. Johnson, 212 Mass Bldg., Kansas City, Mo.

Prosperity of banking corporations built upon the ruin of the people. Read T. Cushing Daniel's book, "The Betrayal of the People" by Congress in passing the fraudulent gold basis Federal Reserve Act, and defeat any Representative who now tries to defend this financial scheme to rob the people. Popular edition, 25 cents. The Monetary Educational Bureau, 1416 F St., Washington, D. C.

SPECIAL

EXECUTIVE open for engagement with important financial interests or corporation. Experienced in executive and corporation work and management, and competent to represent important interests in their corporation connections. Organization and promotion work and in handling monetary affairs, reorganizations and expansion financing programs of the first magnitude. Address No. 6668 care Manufacturers Record, Baltimore, Md.

FACTORY SITES

Atlanta, Ga., business property for sale at attractive figures. Consists of two choice sites, 80x203 and 85x225, for combined manufacturing show room, sales and storage purposes. Only one mile from very center of City on Whitehall St., running back to Southern R. R. and Central of Georgia R. R. tracks. Railroad property in Atlanta is becoming scarce. These sites, at prices asked offer splendid investment opportunity. Address owner, P. O. Box 657, Atlanta, Ga.

FACTORY SITES

FREE FACTORY SITES,
FINANCIAL ASSISTANCE
AND OTHER ATTRACTIVE INDUCE-
MENTS
J. D. Stone & Company, Inc.
No. 4 Arcade Building,
Norfolk, Va.

BALTIMORE

FACTORY
SITES

William Martin & Company.

1413 Lexington Bldg.
Baltimore, Md.

FOR SALE OR LEASE

Four and one-half acres in Bridgeport, Conn. Desirable location, 450 feet on the railroad, spur track now on the property. 640 feet on the street; 650 feet on river and slip. Depth of river 18 feet at low tide. Site suitable for manufacturing, distributing center for lumber, cement or other uses requiring both water and rail facilities. Map and other particulars on request.

THE BRIDGEPORT LAND & TITLE CO.
AGENT
875 Main Street, Bridgeport, Conn.

INDUSTRIAL PLANTS

FOR SALE

New modern manufacturing plant, suitable for most any line. 1 Bldg. 50x100 ft. Monitor roof, with light airy cemented basement. Steam heat. Sprinkler system. Cheap electric. Power and Labor. Large oil storage tank. Railroad Siding, other one story bldgs., 40 miles from Cinci. on main line B. & O., 4½ acres ground, at two-thirds of original cost. Terms to suit. Address No. 6069 care Manufacturers Record.

FOR SALE OR LEASE—Manufacturing site, 25 acres, Elkridge, Md.; on Patapsco River; about 180 H. P. developed; good buildings; partly equipped; main line B. & O. Address R. W. Kline, Salem, Va.

PATENT ATTORNEYS

PATENT-SENSE.
"The Book for Inventors
and Manufacturers."
FREE. WHITE
LACEY & LACEY,
Dept. 15. Washington, D. C. Est. 1869

INVENTORS—Send sketch or model of your invention, for opinion concerning patentable nature, and exact cost of applying for patent. Book, "How to Obtain a Patent" sent free. Gives information on patent procedure and tells what every inventor should know. Established 25 years. Chandler & Chandler, 412 7th St. NW Washington, D. C.

PATENTS, TRADE-MARKS AND COPY-RIGHTS—Write for our Free Illustrated Guide Book and EVIDENCE OF CONCEPTION BLANK. Send model or sketch and description of your invention for our opinion of its patentable nature free. Highest references. Prompt service. Reasonable terms. Victor J. Evans & Co., 712 9th St., Washington, D. C.

PATENTS—Booklet free. Highest references. Best results. Promptness assured. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

LUMBER AND BUILDING MATERIAL

FOR SALE:
1 car 5½x3-2½" Face B & Better Ceiling
½ car 5½x3-2½" Face No. 1 Com. Ceiling
4½ car 5½x3-2½" Face No. 2 Com. Ceiling
3 car 5½x4-3½" Face No. 3 Com. Ceiling
Ingram-Day Lumber Company, Lyman, Miss.

AGENCIES WANTED

DO YOU WANT WESTERN BUSINESS? Two live, aggressive, well educated young men, trained in salesmanship with wide and favorable acquaintance in West Texas, New Mexico, Colorado and Arizona, are open for any line possessing merit and sales possibilities, except auto accessories and machinery to sell in this territory to wholesale or retail trade or direct to consumer. Prepared to finance ourselves on any active line, paying top commission for volume production. Also willing to visit manufacturer or distributor, if necessary, to familiarize ourselves with line to be sold. Abundant references furnished as to ability, character, reliability and successful sales record. Write at once. J. W. Hollingsworth, P. O. Box 413, El Paso, Tex.

SITUATIONS WANTED

A Southern hosiery yarn mill executive, with a practical and thorough knowledge of every detail incident to the manufacture of cotton yarns and a record of successful achievement covering the past seven years, contemplates a change of location within next 10 or 15 months. Address No. 6065, care Manufacturers Record, Baltimore, Md.

MEN WANTED

SALESMEN WANTED
The Celligraph Engineering Corporation is prepared to take on a few salesmen located in manufacturing centers of the United States. The product of the corporation is a self-lubricating bearing already proven satisfactory in many thousand installations. Address C. H. Fish, General Manager, 73 Tremont Street, Boston, Mass.

WANTED SALESMAN—Experienced retail lumber and building material salesmen to work local trade, city 50,000 inhabitants. Apply in own handwriting stating age, experience, references and salary expected. Address No. 6073, care Manufacturers Record, Baltimore, Md.

Well established foundry and machine shop in large industrial city in North Carolina is in need of a progressive middle-aged man for general manager. He must be energetic, and able to direct men towards economical production and must have experience in foundry and machine shop practice. Splendid climate and educational facilities. Good position for right man. References exchanged. Address No. 6070 care Manufacturers Record, Balto, Md.

A LEADING ORGANIZATION desiring to fill an important position, for obvious ethical and other reasons, cannot invite directly the candidacy of any particular man. Similarly, no well-connected man will exploit personally his own qualifications, no matter how receptive he may be to overtures. The undersigned has been retained by a national clientele for many years as a medium for negotiating preliminaries in such cases. Your permission to send booklet discussing this problem and describing the service, will in no degree obligate or compromise you. Strictly confidential. R. W. Bly, Inc., 303 Lockwood Bldg., Buffalo, N. Y.

Stock Salesman wanted to handle first mortgage industrial bonds, give references and commission expected in first letter. R. W. Herfurth, Camden, S. C.

Wanted
Several Building Superintendents,
Apply
King Lumber Co., Charlottesville, Va.

MACHINERY AND SUPPLIES

Locomotive For Sale—Ten wheel, 55 ton, Rhode Island make, equipped for main line service, \$4000.00. Box 187, Palatka, Fla.

Valves and pipe fittings, all sizes and kinds. Let us figure on your requirements. Pratt, Thompson, 220 E. Lexington Street, Baltimore, Md.

MACHINERY AND SUPPLIES WANTED

WANTED—Up to 80 tons 3½" round bars for Phila. delivery. Can be slightly rusted. Lengths 20 feet or more. State quality, condition, best price and shipping point first letter. Address No. 6072, care Manufacturers Record, Baltimore, Md.

September 28, 1922.

MANUFACTURERS RECORD.

93



SPECIAL ADVERTISEMENTS OF GENERAL INTEREST

Have You Ordered Your
Blue Book of Southern Progress
Single Copies 50c
Manufacturers Record, Baltimore, Md.

OPPORTUNITIES Industrial and Agricultural

The A. & W. P.—W. Ry. of Alabama and Georgia Railroads traverse a territory rich in material and potential resources. Attractive industrial sites. For information apply:

**Commercial & Agricultural
Dev. Dept.—Above Lines
Atlanta, Georgia**

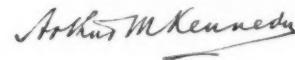
First-class Articles Wanted TO USE IN Mail Order Business

These articles will be given very best attention. Will receive proper amount of advertising and push. Either novelties or specialties, provided price to consumer does not exceed \$7.00. If you have the articles, let us hear from you.

BEST SERVICE COMPANY
212 Walker Building - - - Minneapolis, Minn.

A Real Sales Manual

Put the sales-facts of your business into the hands of your representatives in a compact, yet comprehensive and thoroughly readable form. It pays.



Business Research

Sales Manuals

218 So. 16th Street, Philadelphia, Pa.

SAMUEL T. FREEMAN & CO. - - - - - **Auctioneers**
1519-21 Chestnut Street - - - - - **PHILADELPHIA**

RECEIVERS' SALE IN EQUITY

In the United States District Court for the Western District of Pennsylvania. May Term 1920. No. 354.

VALUABLE PLANT REAL ESTATE, PATTERNS, MACHINERY & MATERIAL OF

**THE UNITED STATES & CUBAN ALLIED WORKS ENGINEERING CORP.
BRADFORD, PENNA.**

**MONDAY, OCTOBER 2, 1922 at 1 P. M. and TUESDAY, OCTOBER 3, 1922 at 10 A. M.
ON THE PREMISES**

REAL ESTATE—Modern Steel Daylight Construction Machine Shop, Brick Foundry, Brick Pattern Shop, Power House and Storage Sheds and about 6 Acres of ground, with siding from the Erie Railroad.

PATTERNS—Complete equipment of Patterns for Air Compressors and Engines; also for Sugar Machinery. Also Special Jigs, Dies and Tools and large tonnage of Castings both finished and in the rough for the same.

MACHINERY—The Machinery comprises 7 Planers, 49 Lathes, 4 Milling Machines, 9 Drill Presses, 3 Horizontal and 3 Vertical Boring Mills, 2 Barrett Boring and Facing Mills, 2 Hydraulic Presses, 2 Shapers, 12 Grinders, 20, 15 and 5 ton Electric Traveling Cranes, 6 Hand Traveling Cranes, Jib Crane, Wood Working Machinery including Band Saw, Lathes, Circular Saws, etc.; Power Plant including 125 H.P. Gas Engine and 100 K.W. Generator, 150 H.P. Motor connected to 120 K.W. Generator, Switchboards, 100 H.P. Gas Engine, 10 Motors, Pumps, etc. Also Reo Roadster, International Truck, Office Furniture, Adding Machines, Typewriters, etc.

By order of F. Clyde Sullivan, } Receivers
William L. D'Olier, }
Saul, Ewing, Remick & Saul, Esqs., 1835 Land Title Bldg., Philadelphia, Pa.

Gwilym A. Price, Esq., Frick Building, Pittsburgh, Pa.
Attorneys for Receivers

Catalogues mailed upon application to

SAMUEL T. FREEMAN & CO. - - - - - **Auctioneers**
1519-21 Chestnut Street - - - - - **PHILADELPHIA**

Thos. E. Grady & Co., Inc.

INDUSTRIAL TRAFFIC MANAGERS
AND COUNSELLORS

Representing Capital in Excess of \$200,000,000.00

Our clientele composed of more than 3000 shippers and receivers of freight in the South are receiving the following service:

- a. Quoting of freight rates both rail and ocean.
- b. Advice as to proper classification.
- c. Advice as to packing requirements.
- d. Auditing of freight bills and prepaid bills of lading.
- e. Collection of overcharge claims.
- f. Collection of loss and damage claims.
- g. Furnishing of legal opinions on matters pertaining to traffic law.
- h. Handling of complaints before Interstate Commission or any state railroad commission.
- i. Furnishing on application any information possessed by us regarding any traffic regulations or rules—and without application to furnish information coming to our attention of importance to the subscriber, relating to any traffic matter.
- j. Handling of reconsignments and embargoes.
- k. Any other traffic matters not specifically covered in the foregoing.

We handle all Traffic and Transportation matters on contract basis. Correspondence Solicited.

We can quote you rates from Anywhere to Everywhere

Thos. E. Grady & Co., Inc.

ATLANTA, GA.
Citizens & Southern
Bank Building

SAVANNAH, GA.
Savannah Bank & Trust
Building

COLUMBIA, S. C.
Liberty National Bank
Building

To the MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama, which are traversed by the

Central of Georgia Railway

Cheap electric power, numerous undeveloped waterpowers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

Full and detailed information upon application.

J. M. MALLORY, General Industrial Agent
SAVANNAH, GEORGIA

THE STATES OF LOUISIANA AND TEXAS

Afford wonderful opportunities for industrial development and the location of plants for distribution.

THE TEXAS AND PACIFIC RAILWAY maintains an Industrial Department fully equipped to furnish information regarding resources, values of property, rentals and other information helpful to prospective manufacturers or distributors.

Address
FRANK J. BURKE
Land & Industrial Commissioner
DALLAS, TEXAS



RECEIVER'S SALE
At Front Royal, Virginia
On Monday, October 2nd, 1922, at 2 P. M.
OF
MODERN HYDRO-ELECTRIC POWER PLANT

estimated to develop sixteen hundred horse power on the Shenandoah River, Warren County, Virginia.

For terms and particulars—Address either of the undersigned receivers

Aubrey G. Weaver, Receiver,
Front Royal, Virginia.
E. H. Jackson, Receiver,
Front Royal, Virginia.
Aubrey Penre, Jr., Receiver,
Calvert Building,
Baltimore, Maryland.

The LOUISVILLE MARKET

High Spots In Louisville Offerings

Agricultural Equipment

Louisville makes every essential. Wholesalers offer all foreign made equipment and supplies.

Building Materials

Every requirement in lumber, mill-work, structural steel, cement, clay products, contractors equipment.

Dry Goods

Comprehensive open stocks of dry goods, notions and allied lines afford you unlimited range of choice.

Food Stuffs

Packing house products, cereal products, canned foods, relishes and confections in great variety.

Furniture

28 Louisville factories exhibit under one roof. Offerings in floor coverings, draperies and allied lines unsurpassed in any market.

Hardware

Unlimited range in hardware and allied lines. Auto accessories and electrical lines unusually complete.

House Furnishings

Manufacturers and wholesalers offer every staple and specialty line.

Machinery

Manufacturers and mill supply houses furnish every requirement.

Men's Wear

Manufacturers' offerings especially complete in mens and boys fine clothing, work clothing, hats, caps, shirts, ties, shoes, etc.

Sporting Goods

Wholesalers and manufacturers showing complete in every detail.

Women's Wear

Manufacturers and wholesalers offer wide range in coats, suits, dresses, skirts, blouses, knitted wear, lingerie, hosiery, shoes, notions, jewelry. Largest millinery market in south.

Miscellaneous

Leather, luggage, paints, varnishes, oils, drugs, chemicals, china, glassware, toys, tobacco, cigarettes, cigars, candy 'n evrything.

If you don't find what you want in the index, write Louisville.

We
Make
It



THE LOUISVILLE MARKET is the composite of a thousand manufacturing plants, jobbing and wholesale houses of major league proportions and an even greater number of smaller specialty shops and industries, producing and distributing every known commodity for the needs and luxuries of men.

Louisville's commercial position is unique. It does not depend on any particular line or group of industries for its prosperity—the market is complete. Louisville produces in competitive quantity every article and commodity which enters into the social, commercial and industrial life of the nation.

Here the manufacturer of whatever line will find his specialized machinery and equipment, the jobber of whatever territory will find lines he can handle with profit, the specialty buyer and the general merchant, however oddly assorted may be their needs, find their choice unrestricted in the variety of offerings and extent of price range—and more, they find that Louisville still mixes old-fashioned courtesy with her business and proffers a co-operation that extends beyond the discount date.

Come to Louisville for your requirements and know us first hand. You will like our city and our way of doing business.

For quick action, use our merchandising bureau. Phone, wire or write our secretary of your requirements and he will instantly connect you with dependable sources of supply.

MERCHANTS & MANUFACTURERS ASSN.
"Refunds Your Fare From Anywhere"
INCORPORATED

ROBERT N. KEEF, Secy.

MACHINERY AND EQUIPMENT WANTED

WANTED

1—Small well drill for drilling blast holes.
1—Air-operated Jackhamer steel sharpener
Address

HARRY M. WAUGH
Bluefield, W. Va.

WANTED

One 11x16 saddle tank, 36" gauge, used Porter locomotive, for immediate delivery. Must be in good condition, and subject to inspection.

BLAIR LIMESTONE COMPANY
Martinsburg, W. Va.

WANTED

PLANTS FOR WRECKING

Buyers of surplus hardware stocks, scrap iron and metals.

H. KLAFF & CO.

Central Ave., Gough & Stiles Sts.
BALTIMORE, MD.

WANTED

to buy one Sullivan single head channelling machine.

APPALACHIAN MARBLE COMPANY
Knoxville, Tenn.

WANTED

A Class 24—Bucyrus Drag Line Excavator—mounted on skids and rollers. State age, condition and full description, and if possible send photograph together with lowest spot cash price in first letter.

WOOD & LANE COMPANY
St. Louis, Mo.

RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES

Your Products Exhibited
in the
BUILDERS' EXCHANGE
BALTIMORE, MD.
Will give you results in actual business. Exhibits
on ground floor
Write for information

HENRY A. KRIES & SONS CO.

Steam and Mill Supplies, Pipe
Fittings, Complete Power Plant
Equipment, Manufacturers and
Machinists, Refrigerating Engi-
neers and Contractors.

6 and 8 W. Lombard St., BALTIMORE, MD.

BELTING

Leather Rubber—Canvas
Both new and used.

Big bargain in 5" and 6" Rubber Belting
and in remnant lengths.

ATLANTIC MANUFACTURING CO.
Wilmington, Del.

HOISTING ENGINES

Almost every size and for every duty.
Steam, Electric and Gasoline,

STEAM PUMPS

18" x 10" x 12" Worthington 1000 gal.
Fire Pump,
65—10" x 6" x 12" Buffalo Brand new,
special price.
Many other sizes and makes.

COMPRESSORS

20 and 12 x 14 Chicago Pneumatic 1145
cu. ft.
22 and 14 x 18 Lairdlow, Dunn and Gording
1200 cu. ft.
Many smaller ones.

BOILERS

Return Tubular, Vertical and Locomotive
Type, nearly every size new and second-
hand in Stock.

LOUIS A. TARR, INC.
N. W. Cor. Sharp & Conway Sts.
BALTIMORE, MD.

COMPLETE MINERAL GRINDING EQUIPMENT FOR SALE

3—42" Emery Mills, 2-Jaw Crushers, 3-Bolting
Reels, 1-Sturtevant Roller Mill, 2-Steam Engines,
1-Boiler.

CONSOLIDATED PRODUCTS COMPANY, Inc.
15 PARK ROW, NEW YORK CITY

ONE SET OF PYRAMID TYPE POWER BENDING ROLLS

with 6 in. by 8 ft. rolls. Belt driven.
Good condition.

FITZ WATER WHEEL COMPANY
HANOVER, PA.

Factory Heating Unit

A great bargain on one new No.
10 SIROCCO FAN with direct
connected 9 x 8 Type "A" Engine
including six sections of return
bend heating coil. Inquiries so-
licited.

Continental Motors Corporation
Detroit, Mich.

FOR SALE

1—8 x 8 New Standard Belt Driven Air
Compressor.
1—150 H.P. Russell Automatic Side Crank
Steam Engine.

NATIONAL PRODUCTS COMPANY
East Liverpool, Ohio

FOR SALE CHEAP

One—32" 3-ply used Leather belt 100 ft. long.
One—48" 3-ply used Leather belt 100 ft. long.
And various widths of Double Leather Belting.
All in excellent condition.

B. F. GUMP COMPANY
431 S. Clinton St. Chicago, Ill.

FIFTEEN ANDERSON OIL EXPELLERS FOR SALE AT A BARGAIN

Latest type, used but a few weeks.

BURRUSS ENGINEERING CO.
Atlanta Trust Co. Bldg., Atlanta, Ga.

NEW AND SECOND-HAND MACHINE TOOLS

HENRY PRENTISS & CO.
Incorporated

149 Broadway New York, N. Y.
Warehouse: Jersey City

WE OFFER FOR QUICK DISPOSAL

—AN—

ACTIVE OIL ENGINE MANUFACTURING PLANT

Manufacturing the World Famous
Mietz & Weiss Semi-Diesel Type Oil Engine

THIS OFFER INCLUDES:

ALL patent rights, patterns, jigs, fixtures, drawings, customers' names, records, orders on hand, service parts, finished stock, machinery and tools used in connection with the manufacturing.

SOME FACTS ABOUT THE BUSINESS:

In existence 28 years; built and sold approximately 9000 engines ranging from 4 to 250 H.P.; approximately 375,000 H.P. total; extensively used by the United States and Foreign Governments; adapted to any industrial or municipal purpose for light or power, marine or stationary installations.

Received GOLD MEDALS of EXCELLENCE at fifteen World Exhibits

Large Annual Service Parts Business
Large amount of present orders and inquiries on hand

This is a LIFE TIME opportunity to acquire a going business with a successful past and glowing future at a sacrifice price.

Telephone or telegraph immediately for further particulars.

Principals only

INDUSTRIAL PLANTS CORPORATION

25 CHURCH STREET

NEW YORK

RECTOR 0348



Here's the Equipment

- 1—Allis-Chalmers Turbine, 10,000 K.W. Steam pressure, 180 lb, superheat 75 deg. Generator, 3 phase, 25 cyc., 6600 V, 1500 RPM, 100% P.F.
- 1—Allis-Chalmers Turbine, 7500 K.W. Steam pressure 180 lb., superheat 75 deg. Gen., 3 phase, 25 cyc., 6600 V, 1500 RPM, 80% P.F.
- 2—Allis-Chalmers Service Pumps, single stage, 300 G.P.M., turbine driven.
- 2—Allis-Chalmers Boiler Feed Pumps, 3", 4 stage, 400 G.P.M., turbine driven.
- 2—Wheeler Surface Condensers, 20,000 sq. ft.
- 2—Wheeler, 24,000 G.P.M., motor driven, circulating pumps.
- 2—Wheeler turbine-driven Air Pumps.
- 4—Wheeler turbine-driven hot well pumps.
- 2—Wheeler Expansion Joints.
- 10—B & W Class M-30 Sterling 8226 sq. ft. heating surface Boilers with superheaters, and soot blowers.
- 10—Taylor 7-retort, 22-tuyere Stokers, 4 stoker engines, 4 motor-driven fans.
- 2—American Spray, 25,000 cu. ft. air-per-minute Washers.
- 1—Northern 4-motor elec. Traveling Crane, 50-ton cap., 10-ton aux.
- 2—Treadwell Steel Stacks.

Also Link Belt 30x30"; 2-roll coal crusher; 16x8" flight conveyor; 24x8" cont. bucket elevator; 16x8" dist. flight conveyor; Allis-Chalmers steam-driven Exciter, 800 amp., 125 V; Allis-Chalmers Motor Generator Exciter, 960 amp., 125-480 V, 180 H.P.



WAR DEPARTMENT



T-G-A

Only once in a Blue Moon does such a thing happen!

Here's a Complete, Never-Used Power Plant for Somebody

It is the Bush River Power House, located on Gunpowder Neck at Edgewood Arsenal, Edgewood, Md.

This mammoth power plant was built for the Chemical Warfare Service, but the suspension of hostilities came about before the plant was completed.

Now the Government offers everything for sale—everything but the walls.

Some of the equipment had been set up, but the greater part of it was never installed and now lies in the power plant just as it arrived, crated for transportation.

Deterioration is very slight, and it is estimated that the entire equipment is nearly as good as the day it was built.

Bush River was laid out to run at continuous high capacity, day and night, and the stokers, turbines, boilers, condensers and everything were purchased with these facts clearly in mind.

Painstaking tests and extensive investigations were made by the Government officials, and the best electrical and combustion engineering brains obtainable, with the result that the equipment listed herein was decided upon.

Now, who can use this entire plant—what industry?

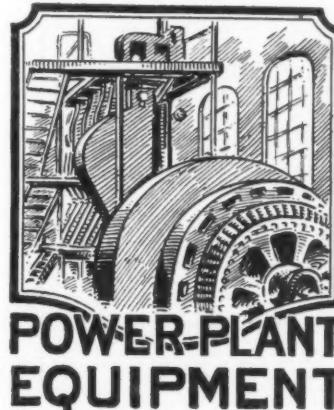
Some projected central station development, mining project, steel mill expansion, machine tool or automotive industry can perhaps, with slight alteration of plans, make use of this plant.

Whatever industry can make use of the Bush River plant can save a pile of money by getting in on this sale.

The sale will be conducted by sealed bid and will close October 10th, bids to be submitted to the Commanding Officer, Edgewood Arsenal. Send for circular proposal of sale which gives full details and terms of sale and then hurry your engineers to this plant for an inspection tour. The Government reserves the right to reject any or all bids.

For circular proposals write:—

Chief, Sales Promotion Section,
Office Director of Sales,
Room 2508, Munitions Building
WASHINGTON, D. C.



PARTMENT

MACHINERY and SUPPLIES

IMMEDIATE DELIVERY:

BOILERS

- 1-B. & W., 284 H.P. Water Tube; 150 lbs. pres.
- 1-Erie City, 250 H.P. Water Tube; 150 lbs. pres.
- 14-72" x 18" Horizontal Tubular; 125 lbs. pressure.
- 2-66" x 20" Horizontal Tubular; 115 lbs. pressure.
- 1-72" x 16" Horizontal Tubular; 115 lbs. pressure.
- 1-100 H.P. Locomotive Fire Box; 90 lbs. pressure.
- 1-50 H.P. Locomotive Fire Box; 90 lbs. pressure.
- 1-50 H.P. Internally Fired; 90 lbs. pressure.
- 1-30 Vertical; 110 lbs. pressure.
- 1-20 H.P. Vertical; 100 lbs. pressure.

ENGINES

- 1-28" x 48" Hamilton Right Hand Corliss.
- 1-20" x 42" Ohio Right Hand Corliss.
- 1-18" x 24" Allis Right Hand Corliss.
- 1-12" x 24" Buckeye Left Hand.
- 1-12" x 24" Douglas Plain Slide Valve.
- 1-10" x 12" Chamberlain Taylor Plain Slide Valve.
- 1-9" x 10" Armitage & Simms Automatic.

PUMPS

- 1-16" x 8 1/2" x 12" Duplex Steam.
- 1-14" x 10 1/4" x 10" Duplex Steam.
- 1-12" x 7" x 10" Duplex Steam.
- 1-10" x 6" x 10" Duplex Steam.
- 3-6" x 4" x 6" Duplex Steam.
- 4-5 1/2" x 8 1/2" x 5" Duplex Steam.
- 2-4 1/2" x 2 3/4" x 4" Duplex Steam.
- 1-8" x 8" Deane Triplex Single Acting Power Pump.
- 1-Kingsford Horizontal Centrifugal Water Pump, 24" suction, 24" discharge.
- 1-Platte Iron Works Horizontal Centrifugal Water pump, 14" suction, 12" discharge.
- 1-Fulton Horizontal Centrifugal Water Pump, 12" suction, 10" discharge.

AIR COMPRESSORS

- 1-Sullivan Straight Line Air Compressor, 24" steam cylinder, 26" low pressure air cylinder, 16" high pressure air cylinder, 30" stroke, capacity 1850 cu. ft. per minute.
- 1-Laidlow-Dunn & Gordon Belt Driven Air Compressor, size 25" x 15" x 18", capacity 1750 cu. ft.
- 1-Chicago Pneumatic Single Stage Steam Driven Compressor, two cylinders, size 22" x 16", capacity 1700 cu. ft.
- 1-Laidlow-Dunn & Gordon Belt Driven Air Compressor, size 25" x 15" x 18"; capacity 750 cu. ft.
- 1-Engel-Sargent High Pressure Steam Driven Air Compressor, two stage, low pressure cylinder 18" x 15", high pressure cylinder 12" x 12", capacity 600 cu. ft.
- 1-Clayton Duplex Steam Driven Air Compressor, duplex steam and two stage air cylinders, dial steam cylinder 10", low pressure air cylinder 18 1/4", high pressure air cylinder 10", stroke 10"; capacity 425 cu. ft.
- 1-Chicago Pneumatic Fuel Oil Driven Compressor, capacity 300 cu. ft., 100 lbs. pressure.
- 12-New York Air Brake Co. Locomotive Type Two Stage Air Compressors, 10" low pressure cylinder, 8" high pressure cylinder, 8" stroke, 7" steam cylinders.

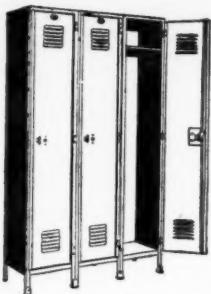
TANKS

- 25-30,000 Gal. Vertical, Storage.
- 20-10,000 " horizontal, storage.
- 15-5,500 " " "
- 10-2,000 " " "
- 25-1,000 " " "
- 25-500 " top or horizontal storage.
- 50-Complete Underground Gasoline Storage Tanks, consisting of 160 gal. galv. tank, 18 gauge material, bearing Underwriters' label, with hand pump, also pipe and fittings complete.
- 25-Complete Underground Gasoline Storage Tanks, consisting of 200 gal. steel tank, 3/16 in. material, with hand pump, also pipe and fittings complete.
- 25-22 in. by 54 in., 150 lbs. pressure.
- 10-20 in. by 8 1/2 ft. to 9 1/2 ft., 150 lbs. pres.
- 10-16 in. by 42 in., 150 lbs. pressure.

Send for a free copy of Bulletin No. 205 describing our complete stocks of Machinery and Equipment.

HARRIS BROTHERS CO.
35th & Iron Sts., Chicago, Ill.

RESALE DEPARTMENT



The supply is limited—get in on this steel locker opportunity while they last—

Sizes
12 x 12 x 60 inches
15 x 15 x 72 inches
18 x 18 x 72 inches
12 x 15 x 72 inches
15 x 18 x 72 inches

Better send in your inquiry now—and get the low price on these handsome steel lockers.

Advise quantity, sections and size desired. Lockers crated; knocked-down in sections; two keys with each locker; master key with each set.

NEW YORK MACHINERY CO.

Dept. MA-2

200 Fifth Ave., New York City

Dept. MA-2

FOR SALE
320 volt D.C. MOTORS LIKE NEW at sacrifice prices.—
We are overstocked and closing these out—Low PRICES for immediate sale.—

GREGORY
G-ELECTRIC CO.
CHICAGO, ILLINOIS

Send For Monthly Bargain Sheet

16th & Lincoln St., Chicago Ill.

USED OIL ENGINES

20, 35, 40, 50, 60, 85, 100, 120, 140, 150, 200, 225, 250 and 500 H.P. used oil engines in good condition. Write for prices.

ROBERT P. KEHOE
7 East 42nd St., New York City
Telephone Vanderbilt 9595

IN TROUBLE MOTORS RENTED

Any Size or Kind
Largest stock of its kind in America.
NATHAN KLEIN & CO.
208 Centre St., N. Y.

GENERATOR BARGAINS

1-200 KW, 720 RPM, 2300 V, 60 Cy. 3 Phase.
1-100 KW, 900 RPM, 2300 V, 60 Cy. 3 Phase.
1-30 KW, 110 V, D.C. Western Electric direct connected to a 60 HP. vertical steam engine.
1-30 KW, 1050 RPM, 125 V, D.C. G.E. Belted.
1-20 KW, 1150 RPM, 125 V, D.C. F.M. Belted.
1-6 KW, 35 or 125 V, D.C. G.E. direct connected to Kerosene Engine.

V. M. NUSSBAUM & CO. - FT. WAYNE, IND.

375 K. V. A.

Brand New—3 ph., 60 cy., 240 v. Bidgway, A.C. Generator, direct-connected to 21 x 24 Bidgway, 4 valve, side crank engine, complete with belted exciter.

COLEMAN-SHOEMAKER, INC.
20th & Clearfield Streets - Philadelphia

Red and Buff Dry Pressed Brick, Common Building Brick

GEORGIA-CAROLINA BRICK CO.
HOWARD H. STAFFORD, Pres.
AUGUSTA, GA.

20-A-9 PATTERSON Hot Water Heaters, slightly used, nearly new, guaranteed.

Send for our October list of the largest stock in the United States of slightly used and thoroughly overhauled MACHINE TOOLS, POWER, ELECTRICAL AND CONTRACTORS' EQUIPMENT.

WICKES MACHINERY CO.
Jersey City, N. J.
Established 1900

ELECTRIC MOTORS

110-7 1/2 H.P., 440 volt Westinghouse
28-7 1/2 H.P., 440 volt General Electric
60-7 1/2 H.P., 440 volt Allis-Chalmers
17-10 H.P., 440 volt Allis-Chalmers
30-10 H.P., 440 volt General Electric
10-10 H.P., 440 volt Allis-Chalmers
25-15 H.P., 440 volt Allis-Chalmers
20-15 H.P., 440 volt General Electric
14-15 H.P., 440 volt Westinghouse
25-30 H.P., 440 volt General Electric

Also many others in sizes from one to forty Horse Power. Write for bargain price list.

NASHVILLE INDUSTRIAL CORP.
Jacksonville, Tenn.

FOR SALE

10-K.W. GENERATOR AND SWITCHBOARD

1-10 K.W. Enberg Generator with large switchboard and one spare armature, all in good condition for \$600. It is the lighting plant from the Shipping Board vessel "CAWKER."

WOOD TOWING CORPORATION
Norfolk, Va.

BELT DEALERS ATTENTION

18" 10-ply Anaconda Belt, Brand new, 400 ft. rolls, \$2.00 per ft.

8" 6-ply Goodrich "Pilgrim" Belt, Original full rolls, 40 cents per ft. All guaranteed new belt.

Several slightly used 10 and 12-ply transmission belts 18 to 34" wide. All high-grade brands. Special bargain prices. Send us your specifications. Get in on this while the stock lasts.

I. BLUFORD & CO.

501 N. 15th St. Richmond, Va.

INSULATING MATERIAL

200 tons 85% Magnesia Cement in bags. Available for immediate shipment and offered at a bargain for quick sale.

NASHVILLE INDUSTRIAL CORPORATION
Plant Sites & Equipment
Jacksonville, Tennessee

25 CYCLE MOTORS

We carry in stock, motors and generators of every description—but have an exceptionally large assortment of 25 cycle—our location being in the heart of the greatest 25 cycle power district.

One of our offerings:
52-KT-333-20 H.P. G.E. 40° 3-Ph., 25-Cy., 440 V., 750 R.P.M. Motors with CR-1034 compensators.

Latest Type! Rock-Bottom Price.
Let us quote you.

THE W.G. NAGEL ELECTRIC CO.
28-30-32 ST. CLAIR ST.
TOLEDO, OHIO

September 28, 1922.
Manufacturers Record.

RESALE DEPARTMENT

THE RANDLE MACHINERY
1734 POWERS STREET

Established 36 years

COMPANY
CINCINNATI, OHIOA. C. GENERATORS.
Belted and Direct Connected.

1-5000 kw. General Electric Vertical, 3 phase, 60 cycle, 4500 volts, Turbo Generator Set, with Condenser and accessories.
 1-1200 K.W. General Electric, 3 phase, 60 cycles, 250 volt Generator, direct connected to Filer & Stowell, cross compound, Corliss Engine.
 1-800 K.W. General Electric, 3 phase, 60 cycle, 250 volt Generator, direct connected to an 18 x 42 x 56 Filer & Stowell Corliss Engine.
 1-500 K.W. Westinghouse, 3 phase, 60 cycle, 2300 volt Generator, direct connected to a 26x42 Hamilton Corliss Engine.
 1-350 K.W. Westinghouse, 3 phase, 60 cycle, 220 volt Generator, direct connected to a 26 x 42 Murray Corliss Engine.
 1-800 K.W. General Electric, 3 phase, 60 cycle, 2300 volt Turbo Generator Set, Condensing.
 1-250 K.W. Westinghouse, 3-phase, 60 cycle, 220 volt alternator, direct connected to a 22 x 42 Murray heavy duty Corliss engine.
 1-250 K.V.A. Allis-Chalmers, 3 phase, 60 cycle, 2300 volts, 600 R.P.M., belted type Alternator.
 2-200 K.W. each, DeLaval-Bullock, 3 phase, 60 cycle, 220-volt Turbo Generator Sets, with condenser and accessories.
 1-125 K.V.A. Ft. Wayne, 3 phase, 60 cycle, 1150-2300 volts Generator, direct connected to a 15 x 16 Erie-Ball Automatic Engine, with accessories.
 1-100 kw. General Electric, 3 phase, 60 cycle, 220 volt, 3600 R.P.M., Turbo Generator Set with Condenser and accessories.
 1-62 1/2 K.W. Lincoln, 3 phase, 60 cycle, 480 volt Generator, direct connected to an 11 x 12 Chandler & Taylor Automatic Engine.

D. C. GENERATORS.
Belted and Direct Connected.

1-510 K.W. Crocker-Wheeler, 300 volt, compound wound, Generator, direct connected to a 19 x 40 x 36 McIntosh & Seymour Engine.
 1-300 K.W. T.A. DeLaval, 250 volt, compound wound Generator, direct connected to a 15 x 28 x 30 Hamilton cross compound Corliss engine.
 1-250 K.W. Triumph, 125 volts, Generator, direct connected to a 22 x 20 Skinner Automatic Engine. (Can be rewound for 250 volts.)
 2-150 K.W. Westinghouse, 275 volts, 200 R.P.M. Generators, each direct connected to an 18 x 19 Fleming-Harris Automatic Engine.
 1-125 K.W. Fort Wayne, 230-volt, compound wound generator, direct connected to a 17 x 18 Skinner automatic engine.

1-100 K.W. Triumph, 125 volt, 675 R.P.M., compound wound, belted type Generator.
 1-75 K.W. Ft. Wayne, 250 volts, compound wound Generator, direct connected to a Skinner Automatic Engine.
 1-38 1/2 K.W. Western Electric, 250-volt compound wound generator, direct connected to a 9 x 12 Skinner engine.
 1-35 K.W. Triumph, 125 volt, compound wound Generator, direct connected to a 9x12 Skinner Automatic Engine.
 1-22 1/2 K.W. Allis-Chalmers, 120 volt, 187.5 amps, 250 R.P.M., compound wound, belted type Generator.
 1-30 K.W. Western Electric, 1250 R.P.M., 120 volt, compound wound, belted type Generator.
 1-17 1/2 K.W. Triumph, 125 volt, 110 amperes, 250 R.P.M., compound wound, belted type Generator.

BOILERS

6-1040 H.P. Edgemore, ASME Code, 200 lb. pressure
 8-520 H.P. Stirling, 175 lb. pressure.
 3-230 H.P. Franklin Helme type, 150-lb. pressure.
 3-207 H.P. Geary, Helme type, 175 lb. pressure.
 2-150 H.P. Atlas, 150-lb. pressure.
 1-175 H.P. 75x18, high pressure, H. R. T.
 1-150 H.P. 72x18 high pressure, H. R. T.
 5-125 H.P. 72x16 high pressure, H. R. T.
 2-100 H.P. 66x16 high pressure, H. R. T.
 1-80 H.P. 60x16 high pressure, H. R. T.
 1-60 H.P. 54x16 high pressure, H. R. T.
 1-50 H.P. 48x120, high pressure, Vertical.
 1-40 H.P. 48x120, high pressure, Vertical.
 1-40 H.P. High pressure Fire Box.
 2-25 H.P. 42x55, new Vertical, 125 lb. pressure.
 1-15 H.P. 36x33 new Vertical, 100 lb. pressure.
 1-10 H.P. 30x35 new Vertical, 100-lb. pressure.

STEAM ENGINES

1-26x48 Vilter left hand Corliss engine.
 1-17x34 x 48 Hamilton, Cross Compound, heavy duty, Corliss, designed for rope drive.
 1-22x42 Hamilton heavy duty Corliss.
 1-22x42 Allis heavy duty Corliss.
 1-18x36 Allis-Chalmers heavy duty Corliss.
 1-16x16 Lane & Bodley Slide Valve.
 1-14x16 Erie City Iron Works Automatic.
 1-13x16 Erie Iron Works Automatic.
 1-13x12 Valley Iron Works Automatic.
 1-10x12 Valley Iron Works Automatic.
 1-10x12 Chandler & Taylor Slide Valve.
 1-9x12 Skinner Automatic.
 Also many other sizes.

Also many other sizes.

MOTOR GENERATOR SETS
 2-500 K.W. Westinghouse, 250 volt, D. C., 720-hp, 3 phase, 60 cycle, 2300 volt, Synchronous Motor Generator Sets.

ROTARY CONVERTERS

2-200 K.W. Westinghouse, 250 volts, D. C., 3 phase, 60 cycle, Rotary Converters.

A. C. MOTORS

No.	H.P.	Make	Volts	R.P.M.
12	7 1/2	New	General Electric	220 1800
6	10	New	General Electric	220 1200
2	13	New	Fairbanks-Morse	440 1750
5	15	New	General Electric	220 1200
1	20	Used	Fairbanks-Morse	220 1200
5	20	New	General Electric	220 1200
1	24	New	G. E. (Slip Ring)	220 1200
3	30	New	General Electric	220 1200
4	40	New	General Electric	220 900
1	50	Rebuilt	General Electric	220 900
1	50	New	G. E. (Slip Ring)	440 900
3	75	New	G. E. (Slip Ring)	220 900
3	100	Rebuilt	Westinghouse	220 1200
2	150	New	G. E. (Slip Ring)	440 720
1	200	Used	General Electric	2200 514
1	250	New	Allis-Chalmers	2200 514
1	275	Used	G. E. (Slip Ring)	240 600
1	960	New	G. E. Synchronous	550 720

Also many other sizes and types.
Any of the above 220 volts motors can be furnished for 440 volts, or vice versa.

No.	H.P.	Make	Volts	R.P.M.
1	50	Rebuilt	Allis-Chalmers	250 800
1	40	Rebuilt	Jantz & Leist	250 800
3	30	Used	Jantz & Leist	250 600
1	29	Rebuilt	Triumph	250 945
1	15	Rebuilt	Minneapolis	110 330
1	12 1/2	Rebuilt	Minneapolis	220 950
1	7 1/2	Rebuilt	Jantz & Leist	220 800
2	5	Rebuilt	Triumph	220 1350
1	5	Rebuilt	Jantz & Leist	220 900
2	4	Rebuilt	Triumph	110 1025

Also many other sizes and types.

OUR SHOPS AND EXPERIENCE ARE AT YOUR SERVICE

ESTABLISHED 1838

INCORPORATED 1907

GEO. F. MOTTER'S SONS

Steam and Electrical
Engineers

YORK, PA.

Boilers, Engines,
Tanks, Stacks,
Heating Contractors,
Machinery Supplies,
Steam Power Plant
Equipment,
Machine RepairsMotors, Generators,
Power Equipment,
Factory Supplies,
Re-winding,
Construction
and Repairing

A. C. MOTORS

Immediate Delivery. Large Stock,
Three Phase and Single Phase, Sizes 1/2 to 50 H. P.
Send us Your Inquiries Before You BuySEEGER MACHINE TOOL COMPANY
Machinery and Supplies
34 S. FORSYTH ST.

ATLANTA, GA.

ELECTRIC MOTORS

Generators & Motor Generator Sets
Steam Engine and Turbine Sets
(We buy and sell good used equipment)J. L. HEMPHILL & CO., INC.
1118-1120 Clinton Street
Hoboken, N. J.400 K. W. PLANT
A REAL BARGAIN FOR QUICK SALE

2-Used 300 H.P. type T.A. DeLaval Turbines each mounted on common base with and direct connected to 2-100 K.W. each, 80% P.F. Bullock, 3 phase, 60 cycle, 240 volt, 900 R.P.M. Generators making 400 K.W. capacity, either 240 or 480 volts. Units complete with exciters, switchboard instruments, barometric condenser, connecting piping, circulating pumps, vacuum pumps, and accessories. Plant can also be operated non-condensing if desired. Full particulars on request.

— ALSO —
BOILERS ENGINES MOTORS GENERATORS

THE RANDLE MACHINERY CO.

Established 36 years

1734 POWERS ST. CINCINNATI, OHIO

MACHINERY—FOR SALE
ELECTRICAL

POWER PLANT

METAL WORKING

DYNAMOS, MOTORS AND
GENERATING UNITS.BOILERS, ENGINES,
PUMPS AND AIR COMPRESSES.MACHINE TOOLS
PRESSES, LATHES,
PLANERS, MILLING MA-
CHINERY, Etc.LARGE STOCK OF NEW AND USED
EQUIPMENT ON HAND AT ALL TIMES

THE O'BRIEN MACHINERY CO.

113 N. Third St., Philadelphia, Pa.

Long-Distance Bell Telephone: Market 0727
Cable Address: O'Brien, Philadelphia


**BUY IT FROM ★ ★
THE NAVY**

ON FRIDAY, OCTOBER 6, 1922

18,763,317 lbs. (Approx.) of Scrap. Dolomite, Ferrous and Non-ferrous Metals

Consisting of approximately

350 Tons Dolomite 7,000 Tons Iron and Steel Scrap

	Lbs.		Lbs.	Lbs.
Aluminum	53,198	Copper	92,090	107,795
Aluminum & Bronze	120,000	Chair Scrap	7,125	5,000
Aluminum & Zinc	2,500	Comp. "X" Turnings	500	250,000
Anti-Friction & Babbitt	132,922	Comp. "G" Turnings	4,500	33,000
Brass	1,369,719	Ferrous Scrap Heap	20,000	15
Bronze	933,369	German Silver	2,550	Reclaimed Metal from Wash-
Bluestone Residue from Pick- ing	1,000	Hawser Rope Scrap	35,000	ing
Bronze & Brass	117,553	Lead	27,481	400,000
Condenser & Tubes	60,210	Lead & Zinc	60,000	Scrap Pipe
		Misc. heavy scrap	6,210	75,000
				Tin, Reclaimed Scrap
				998
				Tubes, Boiler
				32,000
				Zinc
				342,036

For the convenience of prospective customers Cat. No. 135-B has been prepared, listing the material by locations.
Write or wire for Cat. No. 135-B to any of the following, who will also arrange for inspection.

Supply Officers at Navy Yards or Stations:

- *Portsmouth, N. H.
- *Philadelphia, Pa.
- *Newport, R. I.
- Naval Training Station, Great Lakes, Ill.
- *Boston, Mass.
- *Norfolk, Va.
- *Key West, Fla.
- *New York, N. Y.
- *Charleston, S. C.
- *S. Charleston, W. Va.
- Board of Survey, Appraisal & Sale, Naval Supply Depot, S. Bklyn., New York.

Materials are located at Yards or Stations marked *.

Bids on this sale must be in the form given in the above Cat. No. 135-B. Bids should be plainly marked and addressed to the undersigned, where they will be publicly opened at 11:00 A.M. on October 6, 1922.

U. S. NAVY CENTRAL SALES OFFICE
NAVY YARD WASHINGTON, D. C.

WATER TUBE BOILERS

Two (2) 338 HP Heine Water Tube Boilers, pressure allowed last inspection 200 lbs., single drum type, hand fired, complete with Bayer Soot Blowers, full front, all castings, and steam trimmings. Immediate Shipment. An unusual opportunity to secure a pair of high grade boilers at an exceptionally low figure.

FRANK TOOMEY, Inc.

127-131 N. 3rd St.
Philadelphia

NEW BOILERS BELOW MANUFACTURERS' COSTS

125 H. P. Horizontal Return Tubular Boilers, 72" x 16" - A. S. M. E. Specifications.
80 H. P. Return Tubular Boilers A. S. M. E. Specifications.
80 H. P. Locomotive Boilers Mounted on trucks - A. S. M. E. Specifications.
25 H. P. Vertical Boilers.

Manufactured for us by Sotter Bros., Inc.
POTTSTOWN STEEL COMPANY
DOUGLASSVILLE, PA.

A Real Opportunity
NEW STRUCTURAL STEEL—SLIGHTLY RUSTED—NOT PITTED

275 tons 6' 1" 15' 0" long

250 tons 5" 1" 9' 0" long

350 tons 4" 1" 12' 0" long

Exceptionally low price before removal.

Located New Cumberland, Pa.

HENRY A. HITNER'S SONS CO.
4501 Richmond St. PHILADELPHIA, PA.

Pipe, all sizes, bought and sold. What sizes are you in the market for? What sizes have you for sale?

PIPE & CONTRACTORS' SUPPLY CO.
3 Dover Street NEW YORK

BLACK AND GALVANIZED STEEL PIPE

IMMEDIATE DELIVERY FROM STOCK

BLACK PIPE $\frac{1}{4}$ " to 20"GALV. PIPE $\frac{1}{4}$ " to 8"

Cast Iron Bell and Spigot Fittings, Valves and Hydrants

Cast Iron, Malleable and Brass Screwed Fittings

Cast Iron and Steel Flanged Fittings and Valves

Brass Valves

Cast Iron and Forged Steel Flanges

Steam Specialties

25th & Morris Sts. Chas. J. Grant Supply Co. Philadelphia Pa.

FOR SALE

PIPE SECOND HAND All Sizes $\frac{1}{4}$ " to 24"

Furnished with new threads and couplings, suitable for every practical purpose.

Also large assortment of Contractors' Equipment, Hoisting Engines, Boilers, Concrete Mixers, etc.; all thoroughly overhauled.

MARINE METAL & SUPPLY CO.

167 South Street

NEW YORK

PIPE
ALL SIZES SECOND-HAND
FOR ALL PURPOSES
FRANK GRIFFITH

412-442 Moyer Street,

Philadelphia, Pa.



IRON AND STEEL PIPE

Large quantity Pipe, with threads and couplings, used in Government plant a short time.

Rods—100 tons 7/8" Round Rods, 14' to 22' lengths.

Central Pipe & Supply Co.
Box 1099
CHARLESTON, W. VA.

PIPE NEW PIPE

Owing to the present shortage of pipe we are pleased to advise that we have just purchased from the Government 1800 tons of Black and Galvanized new random length pipe from 2" to 12" which we can offer at attractive prices for immediate shipment.

To those who can use 3 1/2" Black or Galvanized Pipe please be advised that we can give a very substantial discount on same. Will ship plain end, flanged or screwed.

COMMONWEALTH PIPE & SUPPLY COMPANY
98-104 Merrimac St.
BOSTON, MASS.

AUTOMATIC SCREW MACHINES

4— $\frac{5}{8}$ " Cleveland Model A. Serial Nos. 25456-25460-25462-25464.
1— $\frac{5}{8}$ "- $\frac{1}{2}$ " Cleveland Model A. Serial No. 19692.
2— $\frac{5}{8}$ " Cleveland Model A. Serial Nos. 2411-3919.
1— $\frac{3}{4}$ " Cleveland Model A. Serial No. 21900.
1— $\frac{2}{3}$ " Cleveland Model A. Serial No. 23502.

DELTA EQUIPMENT COMPANY
148 N. Third Street Philadelphia

PIPE AND ROTARY RIGS

FOR SALE: 14 complete California, Texas and Louisiana model drilling rigs. Hundreds of thousand feet 1" to 12" pipe and oil well supplies at less than one half price.

BROOKS SUPPLY COMPANY Beaumont, Texas

TURBINE

completely overhauled at factory, never been used since, good as new. Rated H.P. 55-65, 1720 R.P.M., Steam Pressure 125. Manufactured by Kerr Turbine Co.

Write or wire.

PALMER-RHODES COMPANY
MIDVILLE, GA.

PIPE FITTINGS

From the immense stock of surplus material at the Old Hickory Powder Plant.

This stock includes hundreds of staple valves, and fittings of all kinds, up to 3 inches. Also Flange fittings from 3 to 16 inch. New valves from Jenkins, Crane, Stockham and Walworth at greatly reduced prices.

Submit your requirements and we will save you money.

NASHVILLE INDUSTRIAL CORPORATION
Jacksonville, Tennessee

PUMPS

1—10 x 6 x 12" Worthington Simplex Vertical Boiler Feed Pumps, New.

1—7 1/2 x 6 x 10" Worthington Duplex Packed Piston Pumps, bronze fitted, for Tank Service: 5" Suction: 4" Discharge, New.

1—10 x 10 1/4 x 12" Worthington Duplex Packed Piston Pumps, bronze fitted, Turret Pattern for Tank Service: 8" Suction, 7" Discharge, New.

2—1 1/2 x 2 3/4 x 6" Blake Knowles Duplicate Oil Pump Sets, New.

3—12" Morris Centrifugal Pumps, directed connected to 8 x 8" Morris Vertical Engine, New.

DIXIE MILL SUPPLY COMPANY, Inc.
NEW ORLEANS, LA.

FOR SALE

1—100' Dry Kiln with 13,000 ft. 1" pipe, track, headers, gleiders and braces.

1—Soulé Flat Stackar.

1—Mogul type Locomotive.

1—22x30 H S & G side crank engine, with 12"x34" wheel.

2—60x16 Boiler.

1—60x18 Boiler.

1—50x14 Boiler.

1—No. 3 Wicke's Gang, with 50 37x3% saws.

1—Filer & Stowell 10x12 twin engine, with spool and sheaves.

1—13x18 Beck Twin engine, with spool and sheaves.

1—40' four block Prescott carriage hand set works and track.

1—No. 94 Berlin 6x9 Matcher.

1—Hall & Brown 4x9 "Mississippi" Matcher.

1—6x15 Fay & Egan Matcher.

Also about 40 thousand acres cut-over land, good farming land; well water and healthy. Location ideal for colonization.

W. Y. LOVELACE
Brewton, Ala.

HOISTS DERRICKS

ELECTRIC HOIST AND DERRICK \$1600

PRICES F. O. B. CARS, HOG ISLAND, PA.

You Save at Least \$2000

These Hoists and Derricks are standard late models, manufactured by The American Hoist & Derrick Co., St. Paul, Minn. They are almost new, and every one is GUARANTEED to be in first-class running order.

The Hoists have two drums and swingers, and are complete with Starting and Control Equipment. Either side or bank control, and rated 6000 pounds single line on each hoisting drum. Slewing rope 36 ft. per minute, and hoisting rope speed 160 ft. per minute. The MOTORS are Otis 37 H.P. A.C., 60 cycle, 3 phase, 440 volt, slip-ring induction type and, if desired, may be changed to suit the individual current requirements of purchasers at cost.

DIMENSIONS OF DERRICKS

Mast..... 16 in. square, 40 ft. high.
Boom..... Made of (2) 14 in. sq. timber 48 ft. long spliced to lengths of 80 ft. with (2) $\frac{3}{8}$ in. and (2) $\frac{1}{2}$ in. truss rods.
Stiff Legs. 14 in. sq., 55 and 60 ft long, or 16 in. sq. 50 ft. long, will furnish either length desired, capacity 5 to 10 tons. Bull wheel 16 ft. dia. Principal sheaves 16 in. dia. and 14 in. single blocks.
The Cable which was formerly used will be given with each purchase of a Hoist and Derrick.

These Hoists and Derricks are assembled on the Grounds at Hog Island and may be inspected at any time. This Equipment is being sold complete and in units of a Hoist or Derrick if desired. Immediate shipment can be made anywhere, but QUICK ACTION IS IMPERATIVE.

Wire, Phone or Write for Detailed Information, Folder, Etc.

THE ELECTRIC HOIST & DERRICK CO.

WAREHOUSE NO. 10, HOG ISLAND, PA.

TANKS

IMMEDIATE SHIPMNET

20" dia x 4'	1 $\frac{1}{2}$ " long	65 Gal.	120" dia x 14'	5" long	8500 Gal.
27" dia x 4'	1 $\frac{1}{2}$ " long	120 Gal.	120" dia x 16'	11" long	10000 Gal.
42" dia x 4'	1 $\frac{1}{2}$ " long	280 Gal.	120" dia x 20'	3" long	12000 Gal.
52" dia x 5'	1 $\frac{1}{2}$ " long	550 Gal.	120" dia x 25'	3" long	15000 Gal.
58" dia x 6'	1 $\frac{1}{2}$ " long	800 Gal.	120" dia x 31'	1" long	18000 Gal.
58" dia x 7'	1 $\frac{1}{2}$ " long	1000 Gal.	120" dia x 33'	7" long	20000 Gal.
60" dia x 5'	1 $\frac{1}{2}$ " long	1000 Gal.	120" dia x 39'	5" long	23500 Gal.
64" dia x 9'	1 $\frac{1}{2}$ " long	1500 Gal.	120" dia x 41'	11" long	25000 Gal.
68" dia x 10'	1 $\frac{1}{2}$ " long	2000 Gal.	96" dia x 16'	3" long	6000 Gal.
68" dia x 15'	1 $\frac{1}{2}$ " long	3000 Gal.	96" dia x 24'	3" long	9000 Gal.
78" dia x 16'	3 $\frac{1}{2}$ " long	4000 Gal.	96" dia x 27'	0" long	10000 Gal.
84" dia x 17'	1 $\frac{1}{2}$ " long	5000 Gal.	96" dia x 32'	3" long	12000 Gal.
76" dia x 40'	0" long	9500 Gal.	96" dia x 40'	3" long	15000 Gal.
84" dia x 32'	8" long	9400 Gal.			

SHARPSVILLE BOILER WORKS CO.

SHARPSVILLE, PA.

1—42" and 54" J. A. Fay Band Rip Saw. 1—54" Gilbert Band Resaw.
1—Glen Cove 8" 4-side Matcher. 1—Preble 10" 4-side Matcher.
1—J. B. Hoyt 14" 4-side Matcher. 1—24" 3-drum Berlin Sander.
1—30" 2-drum Fay. 1—26 x 12 Double Surfacier, endless bed type.
1—45" Circular Resaw—power feed. 1—30" Circular Resaw—power feed.
MOULDERES
1—7" 3-side Houston. 1—7" 4-side Fay.
1—9" 4-side Williamsport. 1—7" 3-side Hamilton.
Boilers, Hoists, Pumps, Engines, Ironworking; Machinery, Belting, Shafting, Pulleys, Hangers.

THE CLEVELAND BELTING & MACHINERY CO.
1524 University Road CLEVELAND, OHIO

PLANER and MATCHER

1—"American Northwest" 26" x 8", four sided, with divided feed in rolls and chip breaker. Bargain Price Before Removal

L. F. SEYFERT'S SONS, Inc.
437 N. 3rd St. Philadelphia, Pa.

RETURN TUBULAR LOCOMOTIVE

BOILERS

WATER TUBE SCOTCH MARINE

A LARGE STOCK OF HIGH-GRADE BOILERS OF PRACTICALLY ALL SIZES, TYPES AND MAKES, TAKEN OVER FROM DU PONT CHEMICAL COMPANY'S AND OTHER PLANTS WITH PRODUCTION RECORDS—RECONDITIONED, OFFERED SUBJECT TO ANY INSPECTION, AVAILABLE NOW!

"SAVE TIME AND MONEY ON YOUR POWER INSTALLATION—LET DAVIS FURNISH THE BOILERS"

LONG DISTANCE
TELEPHONE
CENTRAL 1494

J. F. DAVIS

122-1123-1124
HARRIS TRUST BUILDING
CHICAGO, ILL.

September 28, 1922.
Manufacturers Record.

RESALE DEPARTMENT

105



RAILROAD AND CONTRACTORS' EQUIPMENT

FOR SALE

Second-hand Machinery of every description.

JACOB LEVY & BROS.
712 W. Main Street - LOUISVILLE, KY.

**FOR SALE
A BARGAIN**

1-5 TON 4 wheel BROWN Locomotive Crane, S.G. with $\frac{1}{2}$ Yard Owens Clam Shell bucket—A-1 Condition.

18- $\frac{1}{2}$ yd. D.D. Western cars, 36" gauge, thoroughly overhauled practically new.

THE HARVEY COMPANY
113 South St. Baltimore, Md.

**GASOLINE LOCOMOTIVE
and LOGGING CARS****For Sale**

One six ton Plymouth gasoline locomotive—36" gauge, together with six logging cars. Above equipment in good operative condition. Write or wire.

DILLON SUPPLY COMPANY
RALEIGH, N.C.

BARGAIN

36" Gauge Locomotives
Good engines—Ready for service
1—Vulcan 10x14" 14 ton four wheel saddle tank.

1—American 10x16" 18 ton four wheel saddle tank.
Send for specifications and prices.

E. C. SHERWOOD
50 Church St.
New York

FOR SALE OR RENT**ROAD ROLLERS**

2 Iroquois, 2½-ton Tandem. 1 Iroquois, 7-ton Tandem.
4 Pioneer, 5-ton Tandem.

STEAM SHOVEL

1 Thew No. 0 Traction, $\frac{5}{8}$ yd. dipper.

HENRY A. HITNER'S SONS CO.
4501 Richmond St., PHILADELPHIA, PA.

**DRYERS
CRUSHERS — GRINDERS — PULVERIZERS****For All Purposes****PLANTS DESIGNED AND EQUIPPED**

W. P. HEINEKEN

Engineer and Manufacturer
95 Liberty Street
New York

RELAYING RAILS

5 miles 40 lb. section, North Carolina delivery
3 miles 25 lb. section, North Carolina delivery
8 miles 56 lb. section, South Carolina delivery
8 miles 67½ lb. section, Georgia delivery

All in first-class condition. Ready for prompt shipment. Also other weights. Write us for prices.

H. M. FOSTER COMPANY
Continental Building, Baltimore, Md.

FLAT CARS **BOX CARS**
300 flat cars, standard gauge, 36 to 40 ft. capacity 40,000,
50,000, 60,000 and 80,000 lbs.
35 gondola cars 60,000 and 80,000 lbs. capacity 25' 7" to
36' long, one and four board high, flat and hopper bottom.
15 box cars, standard gauge, 36 ft., 50,000 lbs. capacity.

All equipped with air and hand brakes.

HENRY A. HITNER'S SONS CO.
4501 Richmond St. Philadelphia, Pa.

FOR SALE

50-4 wheel Std. gauge flat cars.
4-60 M Lbs. cap. steel underframe dump
cinder cars.
3 ton Std. gauge Plymouth Gas. Loco-
motive.

WALTER A. ZELNICKER SUPPLY CO.
ST. LOUIS.
Write for our new big bulletin No. 300

**RAILROAD and CONSTRUCTION
EQUIPMENT****IMMEDIATE DELIVERY**

Thomas F. Carey Co.
120 Liberty St., New York, N.Y.

FOR SALE

1-7" x 10" 3-Drum D.C. Stroudsburg skeleton
Hoisting Engine complete with Swinging Gear
attached, good as new.
300-ft. of 24" gauge Portable track, 12 lb. Rail.
20-1-1/2 yd. Steel Wheel Cars 2-way 24" gauge.
1-1-1/2 yd. Hayward Class E. Orange Peel Bucket.
Have 16 lb. and 20 lb. Portable track, Cars, Etc.

JOHN M. GREENE
Drexel Bldg. Philadelphia, Pa.

If you wish to keep posted on the
progress of the South, read the

Manufacturers Record

Exponent of America

Price \$6.50 a year Six months for \$3.50

FOR SALE—SECOND-HAND.**STEAM SHOVELS &
ROAD ROLLERS**

Marion 31 & 21 Caterpillar Traction
Many other sizes and makes.

Austin & Kelly-Springfield Road
Rollers

12 & 10 ton 3 wheel. Steam & Gas.

TANDEM ROLLERS

Several sizes and makes, Steam & Gas.

All bargain prices.

WILSON TANK & CULVERT CO., Inc.
San Antonio, Texas

FOR RENT or SALE

One 10 ton, three wheel, double
cylinder Monarch, scarifier type
Roller, thoroughly overhauled,
located in North Carolina.

R. S. ARMSTRONG & BRO.
676 Marietta Street
ATLANTA, GA.

**SURPLUS GOVERNMENT
WAR MATERIALS**

40 H. P. Advance Steam Tractor, Compound Engine
Tractor Wheels, 6' 6" dia. x 30" wide.

Practically new.

150—Wood tanks, 5000 gal. capacity, slightly used,
practically new.

1-7 Ft. Austin Road Scraper.

Standard Gauge R. R. Ties.

6-36" Gauge Lakewood, Storage Battery locomotives.

75—Steel Frame Flat Cars double truck, beds 5' x 25'.

75—Single truck flat cars 36" gauge beds 6' 3" x 11'.

75—Sets 36" gauge wheels and axles.

37—Sets Ellis Standard Gauge Pumping post.

20-6'-36" Gauge Cast-Iron Turn-Tables.

A large assortment of I beams 6" x 8", 7" x 8", 10" x 14".

Steel and wood sheave blocks, turn buckle.

Wire nails, anvils, gasoline engine diaphragm pumps.

Many other items too numerous to mention.

A number of standard gauge flat and gondola cars.

All surplus war materials that must be moved fast.

U. S. SALVAGE & EQUIPMENT CO.
NITRO, WEST VA.

PITTSBURGH, PA.
318-320 Penn Ave.

BALTIMORE, MD.
Central Ave. & Gough St.

RAILS

60-70-80-85 lb. relayers

FROGS & SWITCHES

70-80-85 lb. frogs, switches, guard rails, stands, etc.

ROAD MACHINERY

Pavers, mixers, rollers, shovels, cranes, crushers, etc.

HENRY LEVIS & CO.

Commercial Trust Bldg., Philadelphia, Pa.

FOR SALE OR RENT**Steam & Electric COMPRESSORS of all sizes.****Hoisting Engines**

Derricks

Locomotive Cranes

Concrete Mixers

Orange Peel and Clam Shell Buckets

Motors, Generator, and Refrigerator Unit

Steam and Electric Shovels.

COMPLETE STOCK READY FOR IMMEDIATE DELIVERY

ARCHER ARMSTRONG & CO.4839 A Grand Central Terminal, N. Y. City
PHONE Vanderbilt 10408**ASPHALT PLANT SPECIAL**

We have for sale one rebuilt No. 2 Merriman 1200 yard One-Car Steam Melting Asphalt Plant. In fine condition, on which we can make good delivery.

Here's an opportunity to get a real plant quickly and at a right price. Better get in touch with us immediately.

The East Iron & Machine Co.

Lima, Ohio

USED EQUIPMENT FOR SALE IMMEDIATE DELIVERY**CONCRETE BUCKETS**

7-2½ yd. Bottom Dumps, Stuebner Concrete Buckets. Located at Spartanburg, S. C. Good condition.

5-Side-dump, 1 yd. Concrete Buckets. Located at Spartanburg, S. C.

GASOLINE ENGINES

2-4 H.P. Fairbanks-Morse Gasoline Engines. Good condition. Located at Spartanburg, S. C.

STEEL GUYS

10,000 ft. Galvanized Crucible Steel Guys, ½ in. to 1 in. Located at Spartanburg, S. C.

DERRICK FITTINGS

6-complete sets derrick irons for guy derricks, with steel Bull wheel. Located at Spartanburg, S. C.

1-15 ton traveling derrick, 50 ft. boom.

3-10 ton wood derricks, 55 ft. masts, 80 ft. booms.

Miscellaneous

1-10-H. P. 60 cycle, 220 volt motor Westinghouse.

1-All steel log carrier together with some

shaft belts and screens. Miscellaneous lot of

piping, valves, and fittings, wheelbarrows, picks,

shovels and road scraper.

Located at Blue Ridge, Ga.

We have also a miscellaneous assortment of small tools of all descriptions, together with a lot of wrought iron pipe and steel, riveted pipe, blacksmith forges, anvils, pipe tongs, pipe vices, blacksmith vices, machinists vices, railroad track jacks, hydraulic jacks, screw jacks, steam drill steel, track bolts, track spikes, nails, bolt spikes and various other small material which we will sell at prices considerably less than the market.

We also have approximately 2,100 lin. ft. of 56 lb. relaying rail.

Also other equipment not listed

Willard, Boggs & Co.
Rex Theatre Bldg., SPARTANBURG, S. C.**40-lb. Relayers****500 tons first-class**

40-lb. relaying steel rail, with angle splice bars.

Ready immediate shipment near Harrisburg, Pa.

Rail of other weights and switches in stock.

E. H. WILSON & COMPANY
COMMERCIAL TRUST BUILDING
PHILADELPHIA**FOR SALE**

1-Barber-Greene loader, 3 months old

1-Barber-Greene loader, one year old

2-114 Foote paving mixer

1-10-ton three wheel Kelly-Springfield Roller

10-Fords with one yard bodies, 3 months old.

1-15-ton Bucyrus locomotive crane, 1918

2-No. 3 Keystone shovels

Above equipment located at Norfolk, Va.

Norfolk Equipment Corporation
601 Bankers Trust Building, Norfolk, Va.**LOCOMOTIVE CRANE**

1-25-ton, 8-wheel Industrial Type II, built 1918, A.S.M.E. boiler, 50-ft. boom, double drums, thoroughly overhauled. Excellent condition.

GREY STEEL PRODUCTS CO.
111 Broadway
New York, N. Y.**RELAYING RAILS TRACK ACCESSORIES**

A large stock of good relayers in weights from 30 lb. to 90 lb. per yard for shipment as quickly as cars are placed for loading. Can ship complete with necessary splice bars, angle bars, bolts and splices.

STANDARD RAIL & STEEL COMPANY
217 Cass Ave., St. Louis, Mo.**FOR SALE**

1-Austin Gasoline Road Roller, good as new.

1-Galion Gravel Screening Plant, used only one season.

Charles T. Eastburn
803 Broad St. Bank Bldg., Trenton, N. J.**FOR SALE.**

1-11x24 Baldwin Saddle Tank Standard Gauge Locomotive.

1-5x12 Baldwin Saddle Tank Standard Gauge Locomotive.

1-Erie B Traction Steam Shovel.

1-10 Ton Industrial four-Wheel Locomotive Crane.

Chas. T. Lehman Machinery Co.
Birmingham, Ala.**GEORGIA CAR & LOCOMOTIVE COMPANY**

Offices and Works, Atlanta, Georgia

REBUILT RAILROAD EQUIPMENT**Locomotives—Cars—Coaches****Standard Trucks for Logging****REPAIR PARTS for CARS and LOCOMOTIVES****RAILS IN STOCK**

With Angle bars to match all sections.

Wire or write for prices.

M. K. FRANK
FRICK BUILDING PITTSBURGH, PA.**RAILS**

Complete stock 16 lb. to 100 lb. sections

Prompt shipment

Write—Wire or Telephone

LOUIS COHEN & SON
Wilkes-Barre, Pa.**The West Va. Rail Co.**

HUNTINGTON, W. VA.

Manufacturers Light Steel Rails

12, 14, 20, 25, 30, 35, 40, 45 lbs. per yd.

We are also dealers in Relaying Rails.

All Sizes

RELAYING RAILS22,500 feet—60 lbs. per yard
11,000 feet—70 lbs. per yard
15,000 feet—75 lbs. per yard
11,000 feet—80 lbs. per yard
20,000 feet—85 lbs. per yard
With necessary angle bars.

Steam Shores—Locomotives—Cars—Railway and Contractors Equipment.

E. C. SHERWOOD, 46 Church St., New York, N. Y.

RAILS NEW & RELAYING ALL WEIGHTS

Let us know your needs. We may have material in stock near you.

WE BUY RAILS FIT TO RE-LAY

Robinson & Orr Pittsburgh, Pa.

New Frogs and Switches at low prices.

RAILS—TANKS

125 tons 60 pound relaying rails, with frogs and switches, at Baltimore, A-1 condition. Steel tanks, round, square 50 to 500 gals.

H. KLAFF & CO.
Central Ave., Gough & Stiles Sta.
BALTIMORE, MD.**NEW RAILS RELAY**

650 Tons 56-Lb. Rail

150 Tons 35-Lb. Rail

SINGER IRON & STEEL CO.
506 First Nat'l Bank Bldg., Houston, Texas**RAILS NEW AND RELAYING****Track Accessories**

NATIONAL STEEL RAIL CO.

I. H. COHN, President
Third National Bank Bldg.
St. Louis, Mo.**LOCOMOTIVE CRANES FOR SALE**1-Browning 15-ton 8-wheel 46 ft. boom, double drums.
2-Browning 4-wheel electrically operated.
2-Industrial 15-ton 8-wheel.
1-Industrial 7½-ton 4-wheel.HOISTING MACHINERY COMPANY
56 Church Street - - - New York**FOR SALE**1 Marion Caterpillar Shovel, Mod. 31, Shop No. 413
16 Western Dump Cars, 36-in. ga., 4-yd. 2-way, hyd.
5 Porter Locomotives, 13-t., 36-in. ga., full saddle tank
1 Keystone Well Drill No. 3 boiler, two sets drifts
2 Kelly-Springfield Steam Rollers, 10-ton, 3-wheel
All above in good working condition.Boilers, Hoisting Engines, Compressors, Etc.
Continental Bldg., D. C. ELPHINSTONE, Baltimore, Md.

LOCOMOTIVES

5 to 100 Tons in weight, Narrow and Standard Gauge—Rod and Geared.

ALL TYPES—FOR ALL CLASSES OF SERVICE.

Have over 50 REBUILT and ready for shipment

STEAM SHOVELS, CRANES, ETC.

- 1—Thew O. $\frac{5}{8}$ yd. on Traction Wheels.
- 1—Marion 28 $\frac{5}{8}$ yd. on Traction Wheels.
- 1—Thew 1 $\frac{3}{4}$ yd. on Railroad Trucks.
- 1—Atlantic 2 $\frac{1}{2}$ yd. on Railroad Trucks.
- 1—Osgood 3 $\frac{1}{2}$ yd. on Railroad Trucks.
- 1—American Railroad Ditcher $\frac{3}{4}$ yd. Bucket.
- 2—Byers Auto Cranes, Traction Wheels, $\frac{3}{4}$ yd. Bucket.

BOX CARS, FLAT CARS

125—65,000 lb. Capacity Box Cars—Rebuilt. 80,000 lb. and 100,000 lb. NEW STEEL Flat Cars.

100,000 lb. Capacity ALL STEEL Gondolas, Dump Cars, Etc.

Southern Iron & Equipment Co.

Established 1889

ATLANTA, GA.

HENRY H. BABER

NEW and RELAY RAILS

Logging Equipment, Track Materials and Supplies
LOCOMOTIVES, CARS, STEAM SHOVELS and CRANES

Dickson Building - - NORFOLK, VA.

Locomotives, Steam Shovels, Locomotive Cranes, Cars,
New and Relaying Rail

WE HAVE FOR SALE

40 Standard and 36" Gauge Modern Direct-connected Locomotives, in all types and weights from 8 to 75 tons.
10 Standard and 36" Gauge Locomotives all weights.
15 Steam Shovels and Locomotive Cranes of different types and sizes.
3000 tons Relaying Rails, all sizes, on our Birmingham yards.
100 sets 35 and 40-lb. Frogs and Switches; good as new.

Birmingham Rail & Locomotive Co. BIRMINGHAM, ALA.

KILBY FROG & SWITCH COMPANY

BIRMINGHAM, ALABAMA

Manufacturers

FROGS, SWITCHES, CROSSINGS, Etc.

THE WEIR FROG CO.

Manufacturers of

Frogs, Switches, Crossings, Rail Braces, etc.

CINCINNATI, OHIO

Manufacturers of Balkwill Articulated Cast Manganese Crossings

“CINCINNATI”



DESIGN,
MATERIALS and
WORKMANSHIP produce
PERFORMANCE that gives
SATISFACTION to
many users

How About You?

Cincinnati Frog & Switch Co.
Cincinnati, Ohio

REPRESENTATIVES:

The Herbert Crapster Co., Inc., 1 Madison Ave., New York City.
T. H. Edelblute Co., 303 Wabash Bldg., Pittsburgh.
Mr. F. K. Holmestead, Charleston, W. Va.

We have on hand
Relaying Rails

35 to 100 lbs. per yard

Large tonnages

Prompt shipments

Get our quotations

HYMAN-MICHAELS CO.
Peoples Gas Building, Chicago

Offices at
NEW YORK SAN FRANCISCO
PITTSBURGH WASHINGTON ST. LOUIS
E. CHICAGO, IND.

LOCOMOTIVE CRANES

- 2—15 Ton Brown-Holst 8 Wheel Double Drum 50' Boom
- 1—15 Ton Bucyrus 8 Wheel Double Drum 50' Boom
- 2—20 Ton Brown-Holst 8 Wheel Double Drum 50' Boom
- 1—17 Ton Brown-Holst 8 Wheel Double Drum 50' Boom

LOCOMOTIVES

- 1—13 x 18 American Standard Gauge 30 Ton 4 Wheel Saddle Tank
- 1—14 x 22 American Standard Gauge 38 Ton 4 Wheel Saddle Tank

STONE CRUSHER

- 1—No. 4 Champion Complete Portable Stone Crushing Plant

AIR COMPRESSOR
1—1955 Cu. ft. Ingersoll-Rand, Imperial Type XPV-3 Steam Driven Air Compressor with inter-cooler.

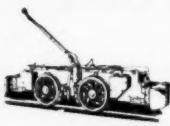
INDUSTRIAL TRACK
8 mile 24" Gauge 20 lb. Track set up.

B. M. WEISS

1324 Widener Building Phone Locust 4816 Philadelphia, Pa.



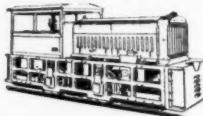
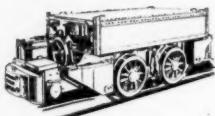
A Type for every project A Size for every job



LOCOMOTIVES

Gasoline
Storage Battery
Trolley
Combination

The Thousands of Whitcomb Locomotives in successful operation speaks for the thoroness of their design and construction.



Write for Bulletins covering the Type you are interested in.

Geo. D. Whitcomb Company
Rochelle, Illinois, U. S. A.

MINSTER
INDUSTRIAL
LOCOMOTIVES



THERE IS
A SIZE FOR
YOUR PURPOSE

The INDUSTRIAL EQUIPMENT COMPANY
OHIO STREET, MINSTER, OHIO, U. S. A.
EASTERN AND EXPORT DEPT., THE HERBERT CRAPSTER CO., Inc.
No. 1 Madison Avenue, NEW YORK CITY

"MINSTER"
Gasoline Locomotives
Industrial Track
&
Equipment
Frog and Switch Work
Welding Steel

P. W. WOOD

"BUDA"
Motor, Hand & Push
Cars
Jacks
Track Tools
Crossing Gates
Rail

RAILWAY SUPPLIES
Industrial Equipment

822 PERDIDO ST. NEW ORLEANS, LA.

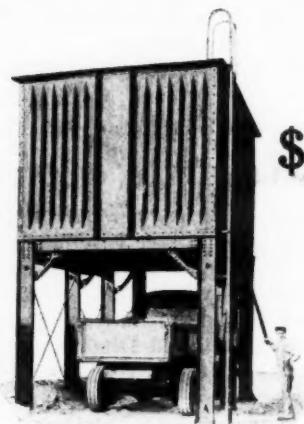
We are building Locomotives from
12 to 90 Tons for all classes of service
Investigate for Switching Industrial Plants—Catalog K.



CLIMAX MFG. CO. Corry, Pa., U. S. A.
SOUTHERN AGENTS: Higgins & Worthington, New Orleans

STEEL BINS

For Sand, Gravel, Cinders, Coal, etc.



\$695

Capacity
70 Cu. Yds.

The steel bins we illustrate herewith measure 10' x 12' x 15' and have a capacity of 70 cubic yards. Height over all 21'. Truck clearance is 10' as illustrated. These bins are particularly adapted for Road Contractors, Material Yards and Coal Yards. The photograph indicates what a great time and labor saver they are, as trucks can be loaded in a very short time and eliminates double handling. Their portability is an added feature as they are all bolted together in the field, no hot rivets being required. They are far superior to wood which soon decays. Price f. o. b. Chicago \$695.

We also manufacture a bin with a hopper bottom having a capacity of 80 cubic yards with one opening. Essentially the same construction as the flat bottom bin. Price, \$795.00 f. o. b. Chicago.

HARRIS BROTHERS CO.
1349 West 35th Street, Chicago, Ill.

Your Reference Library Is Incomplete Without

BLUE BOOK of SOUTHERN PROGRESS

A survey of Southern resources and development in agriculture, industry, commerce, and finance.

Single Copies 50c

Manufacturers Record
Baltimore, Md.

PORTER

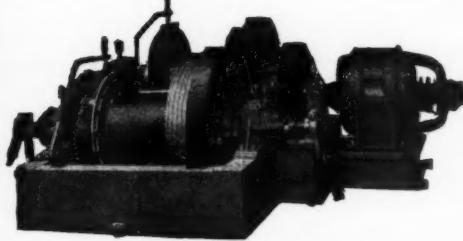
A favorite for every purpose
for over a Half
Century.



H. K. PORTER COMPANY
Pittsburgh, Penna.

LOCOMOTIVES

LIDGERWOOD
HOISTS
STEAM-ELECTRIC-GASOLINE



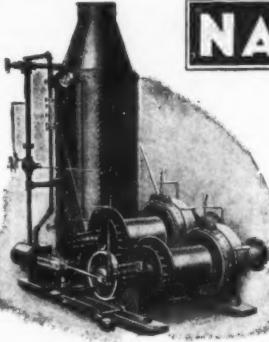
SLACK LINE CABLEWAY HOIST

We build hoists for every type of work. Built with Strength and Speed.

Phil., Pittsburgh, Chicago, Los Angeles
Seattle, Cleveland, Detroit
Woodward Wight & Co., Ltd., New Orleans

LIDGERWOOD MANUFACTURING CO.
95 LIBERTY STREET NEW YORK

NATIONAL



Hoists
Derricks
Pile Hammers

Send for Catalogs
National Hoisting Engine Co.
Office and Works:
Harrison, New Jersey

P & H GAS SHOVEL



For Your Basement Excavating

The P & H Gas Shovel with its powerful crowding action and one-man operation will do the work faster and at a lower cost.

PAWLING & HARNISCHFEGER CO.
Established in 1884
3827 National Ave., Milwaukee, Wis.
Offices and Agents in Principal Cities

Stroudsburg = Quality

We Standardized the 125 Lbs. Pressure Hoisting Engine

They Use Stroudsburgs



Look up the successful contractors—the ones that have a nice balance on the right side of the ledger—and we are sure you will find that a large number are using Stroudsburg Hoisting Engines. They demand the best and buy Stroudsburgs.

"Built for the Man That Wants the Best"
Built for every purpose

The Up-to-Date Contractor's Favorite

STROUDSBURG ENGINE WORKS
Office and Works: No. 64 N. 3d St., Stroudsburg, Pa.

Byers Hoists



For concrete tower work, single or double-cage elevator work, operating of derricks and pile drivers, etc. Steam or gasoline engine, or belt or electric drive. Forty years experience building Hoists.

Send for Bulletins.
The Byers Machine Co.
Ravenna, O.
Builders of Byers Cranes and Hoists.
Agencies in 25 Cities.

A FLORY HOIST FOR EVERY PURPOSE

S. FLORY MFG. CO., BANGOR, PA.



95 Liberty St., New York
Monadnock Block, Chicago, Ill.
Chas. T. Lehman, Birmingham, Ala.
Farquhar Machinery Co., Jacksonville Fla.
Banks Supply Co., Huntington, W. Va.
House Bldg. - Pittsburgh

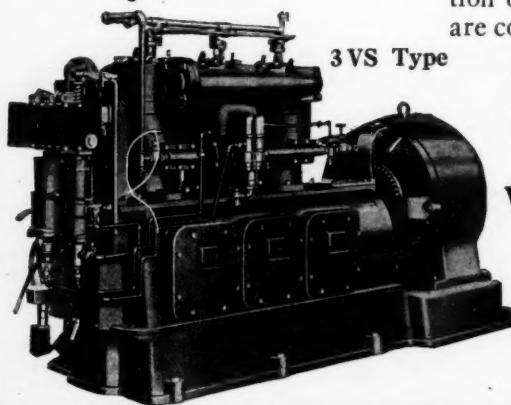
SLUICE GATES
Shear, Flap and Butterfly Valves
FLEXIBLE JOINTS

COLDWELL-WILCOX COMPANY
2 River Street
NEWBURGH, N. Y.

WESTINGHOUSE — NATIONAL AIR COMPRESSORS



Free from
Vibration!

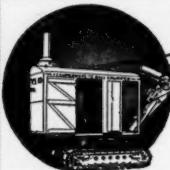


THE vertical cylinder design results in a total absence of vibration in the operation of the largest Westinghouse-National Compressors. The life of the compressor is thus prolonged; its efficiency never impaired by loose, rattling parts. The building in which it is installed is also relieved of a heavy strain. The question of vibration is important when maintenance costs are considered.

Westinghouse-National Air Compressors are furnished in all sizes from 11 to 550 cu. ft. piston displacement; stationary and portable types; A.C. or D.C. motor. Especially adapted for factories, foundries, garages, office buildings, railway shops and yards, printing plants, etc. Literature on request.

Westinghouse Traction Brake Company
General Offices and Works: Wilmerding, Pa.

OFFICES:		
Boston, Mass.	Los Angeles	New York
Chicago, Ill.	Mexico City	Pittsburgh
Columbus, O.	St. Louis, Mo.	Washington
Denver, Colo.	St. Paul, Minn.	Seattle
Houston, Tex.		San Francisco



ERIE Steam Shovels

For road grading, handling road materials with clamshell bucket; cellar and trench excavation; excavating sand and gravel, etc. We will be glad to send photos and data, showing just what the ERIE Shovel is doing on these classes of work.

Write for Bulletin "R"

ERIE STEAM SHOVEL CO.
Formerly Ball Engine Co., Erie, Pa., U.S.A.
Builders of ERIE Shovels and Cranes



ELECTRIC MOTOR

Electric Motor, Clam Shell, Orange Peel, and Drag Scrapers, Buckets for all excavating, digging, and handling purposes. Look for Catalog 48, or consult our engineer gratis.

THE HAYWARD CO., 50-52 Church St., New York

MILL BUILDERS

**FLOUR AND CORN MILL MACHINERY
EFFICIENCY ECONOMY DURABILITY
ROLL CORRUGATING A SPECIALTY
SALEM FOUNDRY AND MACHINE WORKS, INC.
SALEM - VA.**

Thor PNEUMATIC TOOLS ELECTRIC DRILLS

TIME IS YOUR ONLY POSSESSION — DON'T WASTE IT. One man with one Thor Tool will do more work than ten men by hand. BE RIGHT THE FIRST TIME—USE THOR TOOLS.

INDEPENDENT PNEUMATIC TOOL COMPANY
600 WEST JACKSON BOULEVARD CHICAGO

NEW YORK BOSTON PHILADELPHIA PITTSBURGH CLEVELAND
DETROIT ST. LOUIS BIRMINGHAM SAN FRANCISCO MONTREAL



—“Marions” Pioneered
In Big Operations—
They Still Lead

The Marion Steam Shovel Co.
Marion, Ohio, U.S.A.

The Columbus McKinnon Chain Company
Columbus, Ohio



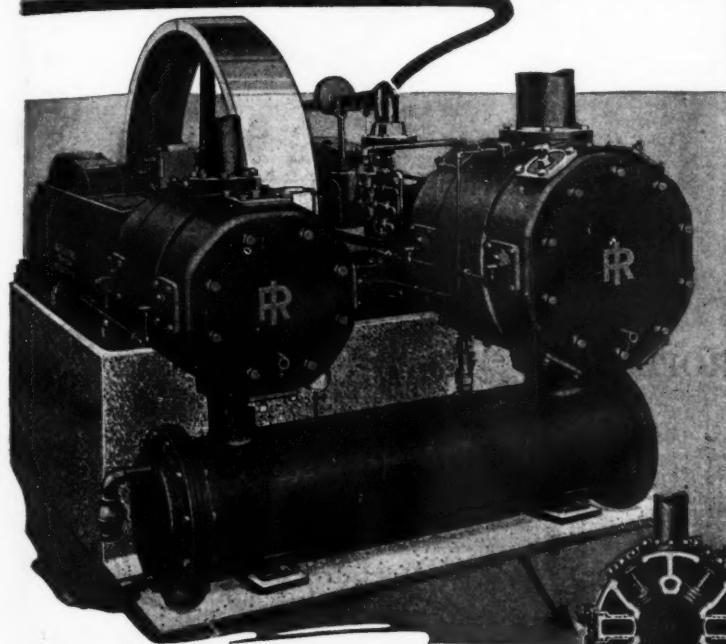
Manufacturers of all kinds of Chain

Southern Offices:
311 Wells Fargo Bldg., New Orleans, La.
Box 158, Jacksonville, Fla. Southwestern Life Bldg., Dallas, Tex.



The Owen Bucket

The Compressor With The 5 STEP CLEARANCE CONTROL



Compressor Output Automatically Changed to Meet Vary- ing Air Requirements

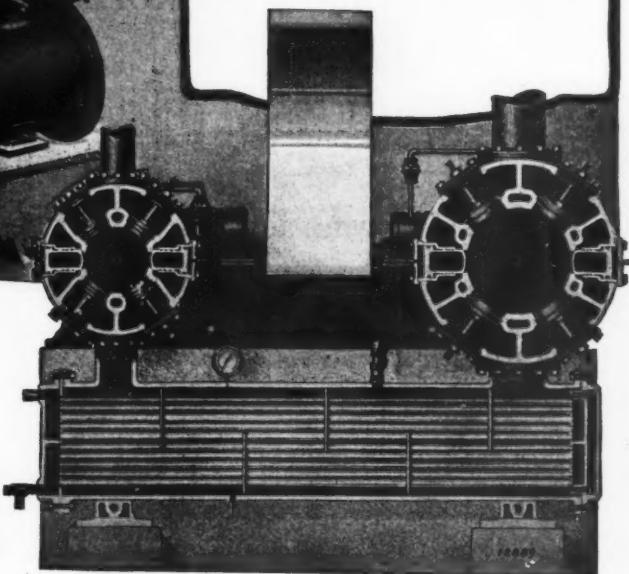
Unless the air load is always constant, install a compressor which will automatically deliver the volume required. A belt or motor driven compressor usually operates at constant speed and the best way to change its output is by adding and reducing the clearance volume of the cylinders.

The 5-STEP CLEARANCE CONTROL does this, and the compressor operates automatically at **full, three-quarter, one-half, one-quarter, or 0 capacity**. The horse-power required is practically in direct proportion to the air delivered. The entire operation is con-

Type "XCB" Compressors Have:

- Ingersoll-Rand Plate Air Valves
- Enclosed, automatic lubrication
- Large adjustable bearings with removable bushings
- Single piece main frame
- Intercooler with unusually large tube surface

BULLETIN NO. 3042



trolled by air pressure, which, in turn, is governed by the air actually being used at the time.

The illustrations show the simplicity of the Clearance Control and the clearance pockets **cast in the cylinder**. There is nothing complicated to get out of order—nothing to make the compressor hard to install as the Control is mounted on the compressor frame. But, there is everything to make the machine easy to operate.

INGERSOLL-RAND COMPANY, 11 Broadway, New York

Offices in all principal domestic and foreign cities

653-C

Ingersoll-Rand



WILLIAMSPORT WIRE ROPE
is standard equipment on
ERIE STEAM SHOVELS
ERIE CRANES

They write us:

"A 20 ton Erie Crane loaded 110 cu. yds. of sand per hour for several hours with a $\frac{1}{2}$ cu. yd. clamshell bucket".

"The fact that Williamsport Wire Rope is giving excellent satisfaction on cranes might prove a favorable indication of your rope's good qualities."

When you buy Williamsport Wire Rope, Telfax Tape Marked you not only get highest quality but the Telfax Tape insures you getting the grade you buy.

Write for your copy of a booklet on *Modern Wire Rope*.

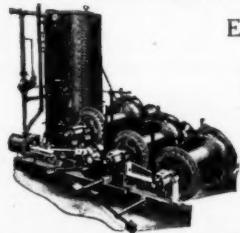
WILLIAMSPORT WIRE ROPE COMPANY

Main Office and Works: General Sales Office: Peoples Gas Bldg., Chicago
Williamsport, Penna.

"Warehouse stocks in all principal distributing centers".

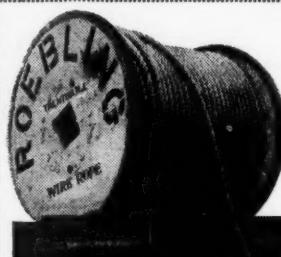
TRADE MARK
MUNDY
ESTABLISHED 1869

DERRICKS
GUY
AND
STIFF
LEG



ELECTRIC
AND
STEAM
HOISTS

J. S. MUNDY HOISTING ENGINE CO.
Newark, N. J., U. S. A.



**Wire Rope
and
Wire**

*Used Successfully
Since 1840*

John A. Roebling's Sons Company
TRENTON, N. J.

BRANCHES:
New York Boston Chicago Philadelphia Pittsburgh Cleveland
Atlanta San Francisco Los Angeles Seattle Portland, Ore.

**The Rugged Construction of
O. S. Dependable
Cranes**



ASSURES
CONTINUED SERVICE

Capacities
7-to-60-Tons

POWER
Steam—Gasoline—Electric

Orton & Steinbrenner Co.
Offices 608 So. Dearborn St., Chicago
Shops Huntington, Indiana.

NORTHWEST CRAWLER CRANE

All-Purposes
Can be used with clam shell bucket—Equipped with perfected crawler
et, dragline bucket, lifting magnet, mechanism; moves about the plant;
or grappling hooks.

NORTHWEST ENGINEERING COMPANY
Works: Green Bay, Wis.
General Sales Office: 28 E. Jackson Blvd., Chicago, Ill.
Eastern District Sales Office:
Room 303, Singer Bldg., New York, N. Y.

Equip Your Plant with Robins Material Handling Machinery

Belt Conveyors, Belt and Bucket Elevators, Crushers for Coal and
Coke, Rotary Grizzlies, Bin Gates, and many other types of
material handling equipment. Write for Handbook of Conveyor
Practices.

ROBINS CONVEYING BELT COMPANY
NEW YORK, 14 PARK ROW BOSTON, 70 KILBY ST.
CHICAGO, OLD COLONY BLDG. PITTSBURGH, UNION ARCADE BLDG.
El Paso, Texas BIRMINGHAM, ALA. 349 First National Bank Bldg.
Toronto, Ontario, C. B. Davis Engineering Co.
San Francisco. GUTTA PERCHA & RUBBER, Ltd.
..... The Griffin Company

C. TURNER CO.
MACHINERY
CONTRACTORS EQUIPMENT

JAMES BUILDING
CHATTANOOGA, TENNESSEE



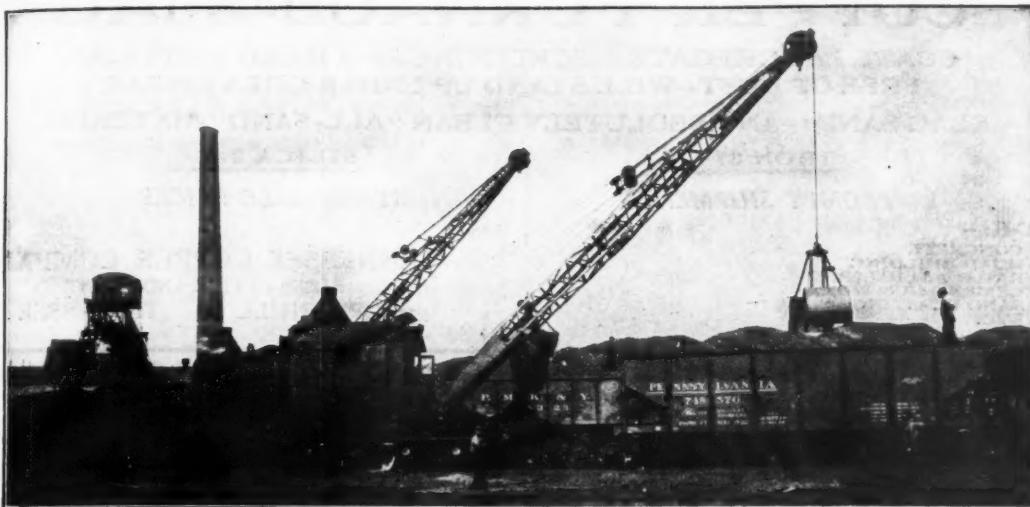
The GEORGE HAIS MFG. CO.,
139th St. and Canal Place, New York, N. Y.
Established 1892
Representatives throughout the world



**CRANES
EXCAVATORS
LAND DREDGES**
Walking, Track, Crawler
and Floating Type

BAY CITY DREDGE WORKS

2600 Center Ave. BAY CITY, MICH.



An
Installation
Where Power
is the
Product

Central stations—The Cleveland Illuminating Company in this instance, have one object—greater power at lower cost. Coal handling is an important function with them. Their margin of profit depends on careful purchasing, and efficient operation of their locomotive cranes just the same as it does upon their steam boilers and generators. A large central station like this does not send in repeat orders, unless they know that Browning design is correct and that they can count on economical operation.

You will find Browning Cranes in action on the hardest jobs. They are designed and constructed for a wide range of uses and for long trouble-free performance on each job.

About Buying A Locomotive Crane

General comparisons between costs for material-handling with different mechanical equipment cannot be safely made because the conditions under which the work is performed are so exceedingly diverse. Costs also vary greatly from time to time.

However, accurate cost estimates for particular uses can be made. Based on records of performance of scores of Browning Cranes now in action, we can tell you, quite accurately, the possible savings for your plant.

If solving your problem involves the use of a Browning Crane, if the Browning Crane will accomplish the work to better advantage than any other machine, then and only then, do we desire to sell you. Briefly describe your operations, we will gladly tell you the possibilities for savings.

THE BROWNING COMPANY
CLEVELAND, OHIO

BRANCHES:

New York
Chicago

Seattle
Portland
Salt Lake City

Washington, D. C.
Birmingham
Montreal

Los Angeles
San Francisco

BROWNING LOCOMOTIVE CRANE

COPPER FURNACE SLAG

COARSE AGGREGATE & SCREENINGS:—A HARD MATERIAL
FREE OF DUST—WILL STAND UP UNDER GREAT WEAR

SLAG SAND:—AN ABSOLUTELY CLEAN “ALL-SAND” MATERIAL

IRON 37%

PROMPT SHIPMENTS

SILICA 34%

REASONABLE PRICES

FOR:—

CONCRETE
ROAD BUILDING
RAILROAD BALLAST
CEMENT GUN WORK
SAND BLASTING
ETC.

TENNESSEE COPPER COMPANY
SALES OFFICE AND PLANT
COPPERHILL TENNESSEE

CRUSHED LIMESTONE

Best for All Purposes

We manufacture all sizes of stone suitable for all classes of road building and concrete work where only a high-grade limestone is required.

Quarries opened up in 1912.

Capacity 4000 tons daily

Quarries:

Blue Ridge, Va. Pembroke, Va. Pounding Mill, Va.

W. W. BOXLEY & COMPANY

First National Bank Building, - ROANOKE, VA.

**Asphalt Filler
Asphaltic Roadway Gravel
Roofing Gravel**



AMERICAN LIMESTONE COMPANY
McNutt Building
KNOXVILLE, TENNESSEE

Southern States Portland Cement



We produce only one grade

THE HIGHEST

ALWAYS UNIFORM

Southern States Portland Cement Co.

Office and Mills—ROCKMART, GA.



Actual service under the most exacting conditions is better proof of QUALITY.

It may be HEAVY Traffic, EXTREME Heat, SEVERE Cold, or action of Salt Water—“WARRIOR” stands the gaff.

Its light color makes it very desirable for residences, garages, and stucco work.

National Cement Company

Manufacturers of

High Grade Portland Cement

**QUALITY and
SERVICE
Our Motto**

Sales Department

Empire Building - Birmingham, Ala.

Plant

Ragland - - - Alabama



Gulf States Portland Cement Co.

Office and Mills

DEMOPOLIS, ALABAMA

SHIPMENTS BY THE WARRIOR RIVER

SAND

Bank Building Concrete Paving

WASHED GRAVEL

In Car, Scow and Barge Lots

THE ARUNDEL CORPORATION
BALTIMORE, MD.

Office: PIER 2 PRATT STREET

Wharves: PIER 2 PRATT ST., AND FOOT OF FELL ST.

SAND AND GRAVEL**Petersburg Sand & Gravel Corporation**

Petersburg, Virginia

CONCRETE, BUILDING AND PAVING SANDS

Giant Portland Cement

Clean Washed Gravel in all sizes

SAND—GRAVEL—BRICKWashed Sand for Concrete, Roads and
Buildings, Brick and Plastering

Washed Gravel All Sizes

Building Brick

Shipments: Sand and Gravel from Petersburg, Va.

Brick from Waverly, Va.

FRIEND & CO. Inc. - River Street, Petersburg, Va.

**NATIONAL STEEL FABRIC**

REINFORCEMENT FOR CONCRETE

NATIONAL STEEL FABRIC CO.MANUFACTURERS & IMPORTERS OF
STEEL FABRIC

BIRMINGHAM, ALA.

Road Rollers, Road Machinery, Culverts and Supplies
THE GALION IRON WORKS & MFG. CO.

GALION, OHIO

ROAD BUILDING EQUIPMENT FOR EVERY REQUIREMENT
OF CONTRACTOR AND ROAD BUILDER

WHAT DO YOU NEED?

We want to furnish you full information on any equipment in which you are interested
Write or telegraph for Catalogue and Prices**"ENSLEY" and "ALABAMA CITY"**
Basic SlaGBIRMINGHAM SLAG COMPANY
Birmingham, Ala.**CUMMER ASPHALT PLANTS**

All Types and Sizes

THE F. D. CUMMER & SON CO.

CLEVELAND, OHIO.

Concrete**Eliminates Maintenance**Architects and engineers specify concrete and
reinforced concrete in the structures they are
designing**Because—**

It is thoroughly fireproof.

It gives stability and permanence.

Maintenance charges are eliminated.

It lends itself ideally to every
class of construction, whether
it be buildings, bridges, roads,
dams, foundations or any class
of engineering work.For all kinds of concrete structures
in the South.**Clinchfield Portland Cement**is being specified and used by
the leading architects, engineers and contractors.When you plan to build, specify Concrete. When you buy cement, select
Clinchfield.**Clinchfield Portland Cement Corp.**
Office and Mills - Kingsport, Tenn.**MR. TAX-PAYER—YOU!**Do you want your county to
spend YOUR good money on roads
that will wear out before your
bonded indebtedness is liquidated?

I SAY YOU DON'T.

What you want is a hard-surfaced
road, with little cost for maintenance—a road that can be traveled
in rain or snow, summer and winter. You want a PERMANENT
road—that means CONCRETE!

Write for Literature—It's Free

DIXIE PORTLAND CEMENT CO.
CHATTANOOGA, TENN.

Economically Meets A Wide
Variety of Loading
and Unloading
Requirements



The
JEFFREY
PORTABLE BELT CONVEYOR

is built to meet the demand for a light, durable and inexpensive conveyor for handling coal, coke, cinders, sand, gravel, crushed stone and similar materials—may also be used for handling such materials as bricks, tile, small boxes and packages.

Capacity varies from 20 to 50 tons per hour. Operated by either electric motor or gasoline engine.

Write for Catalog No. 369

The Jeffrey Manufacturing Co.
926-99 North Fourth Street, Columbus, Ohio

*Agencies Carrying stock of Jeffrey
Elevating and Conveying Machinery:*

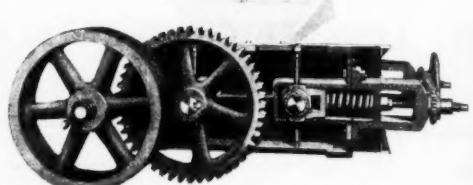
Baltimore, Md.—Carey Machinery & Supply Co.
Memphis, Tenn.—J. E. Dilworth Co.
Nashville, Tenn.—Keith-Simmons Co.
Montgomery, Ala.—Alabama Machinery & Supply Co.
Atlanta, Ga.—Cotton States Belting & Supply Co.
Savannah, Ga. & Jacksonville, Fla.—Georgia Supply Co.
New Bern & Wilmington, N. C.—Hyman Supply Co.
Richmond, Va.—Smith-Courtney Co.
Roanoke, Va.—The Nolan Co.
Norfolk, Va.—Taylor-Parker Co.
San Antonio & Waco, Texas—San Antonio Mch. & Supply Co.
New Orleans, La.—The Fairbanks Co.
Cincinnati, Ohio—Wirthlin-Mann Co.
Erie, Pa.—Weller Supply Co.
Boston, Mass.—H. C. Freeman Co.
Rochester, N. Y.—Ingersoll-Erskine Healy, Inc.



Reclaiming Crushed Stone from Ground Storage to truck.

WELLER

COMPLETE EQUIPMENT
FOR HANDLING
COAL AND ASHES



WE DESIGN AND MAKE

ONE TWO AND FOUR ROLL COAL CRUSHERS
COAL CONVEYORS COAL ELEVATORS
WEIGH LARRIES STEEL BINS
SKIP HOISTS RECIPROCATING FEEDERS
SCREENS GRIZZLIES BIN GATES



EXPERIENCED ENGINEERS ARE
AT YOUR SERVICE TO HELP IN
THE SELECTION OF EQUIPMENT
BEST ADAPTED FOR THE PUR-
POSE

WELLER MFG. CO.
1820-1856 N. Kostner Ave. CHICAGO, ILL.

Sales Offices

NEW YORK BOSTON BALTIMORE CLEVELAND
PITTSBURGH SALT LAKE CITY SAN FRANCISCO

SINGLE ROLL CRUSHERS

MAKE VERY FEW FINES. CRUSH CLOSE TO SIZE DESIRED

Capacity 10 to 250 Tons per Hour

Ore Washers, Ore Jigs, Screens, Elevators, Etc.

McLANAHAN-STONE MACHINE CO., - HOLLIDAYSBURG, PA.

Buchanan Magnetic Pulleys

The effective way to keep "tramp iron" from coal crushers and pulverizers

Complete line of Magnetic Separators for various purposes
Crushing Plants Complete in All Details

C. G. BUCHANAN CO., Inc. 90 West St. New York, N. Y.



GRUENDLER GRINDERS

For crushing limestone for agricultural purposes, are simple, effective, durable and trouble-proof. Write for illustrated bulletin giving prices, specifications and full particulars.

Gruendler Patent Crusher & Pulverizer Co.
909 N. Main St. - St. Louis, Mo.

Pulverizing Machinery Equipped with Air Separation for Reducing Any Material to a Powder

Our complete catalog giving valuable information on questions of grinding will be sent on request.

RAYMOND BROS. IMPACT PULVERIZER CO.
1304 N. Branch St. CHICAGO, ILL.

PERFORATED SCREEN PLATES AND SHEETS

For Ores, Coal, Stone, Gravel, Cement, Sand, Clay, Cotton-Seed Oil Mills, Cotton Gins, Phosphate Mines, Fertilizer Plants, Cyanide Works, Chemical Works, Etc.

Write for our New Catalogue

CHARLES MUNDT & SONS

490 Johnston Avenue

JERSEY CITY, N. J.

Yolande Coal & Coke Company

HIGH-GRADE 72 HOUR FOUNDRY COKE

WASHED and SIZED BLACKSMITH COAL

Mines and Ovens at Yolande, Ala.

General Office: Brown-Marx Building
BIRMINGHAM, ALA.

PERFORATED METALS HEADQUARTERS

Cotton Seed Oil Works a Specialty

Send for Samples

ERDLE PERFORATING CO. Rochester, N. Y.

PERFORATED METAL SCREENS FOR ALL PURPOSES

Elevator Buckets, Conveyor Trough and Flights
Stacks and Tanks

General Sheet and Light Structural Work
Light and Heavy Steel Plate Construction

HENDRICK MFG. COMPANY, Carbondale, Pa.

New York Office 30 Church St.
Pittsburgh Office 544 Union Arcade Bldg.
Hasleton Pa., Office 706 Market Bank Bldg.

Contractors and Manufacturers

TIME CHECKS



We Make Them Promptly. Headquarters for Seals, Stock Certificates, Stencils, Steel Dies, Brass Signs, Enamel Plates, Memorial Plates, Church Seals and Pew Plates. Made on our Premises. Send for Catalogue.

THE J. F. W. DORMAN COMPANY
BALTIMORE, MD.

Indirect Heat ROTARY DRYERS

Espacially suitable for drying all kinds of GRANULAR MATERIAL

HERSEY MANUFACTURING CO., South Boston, Mass.

DIGESTERS, ROTARY

DIRECT HEAT DRYERS STEAM JACKETED

CONTINUOUS STEEL SCREW PRESSES

EDW. RENNEBURG & SONS COMPANY

BALTIMORE, MD.

Automatic
Improved

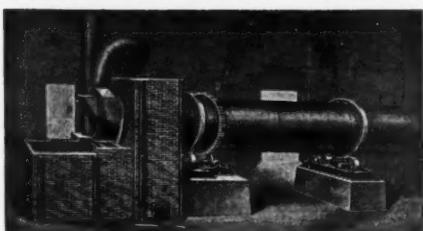
DRYERS

For All
Materials

Economical Efficient Great Capacity
American Process Co., 68 William St., NEW YORK

CHRISTIE

DRYERS • CALCINERS • COOLERS



THERE IS GENERALLY A QUESTION

as to the most economical type of Dryer or
Calciner for a particular purpose.

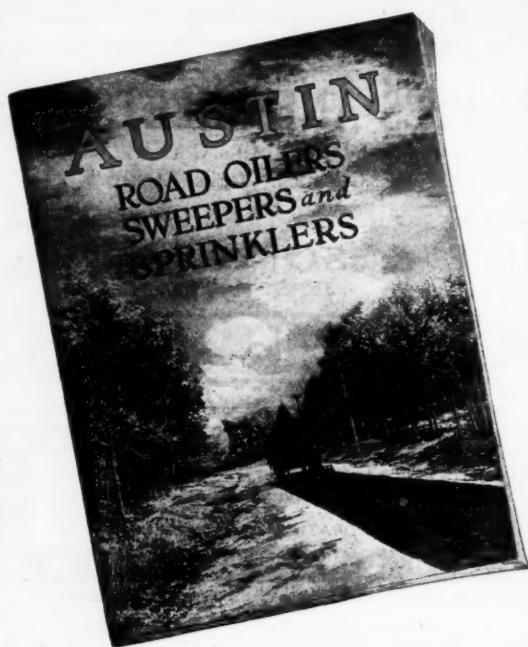
CHRISTIE has had a personal experience
extending over a quarter of a century and
is in position to advise in a consulting capac-
ity or to furnish on a guarantee the most
suitable apparatus.

AVOID WASTE BY CONSULTING

L. R. CHRISTIE COMPANY

501 Peoples Bank Bldg.

PITTSBURGH, PENNA.



A NEW CATALOG

of great interest and real value to all those interested in the most efficient and economical methods of dust laying and road maintenance.

It describes in detail Austin Oilers, Sweepers and Sprinklers in horse-drawn and motor propelled types, together with the complete line of Austin road building and rock crushing machinery. We want to place a copy in the hands of every interested road official and contractor. Write for yours today.



THE AUSTIN-WESTERN ROAD MACHINERY CO.

Home Office - CHICAGO

Branches in 22 Cities

"Everything from a Drag Scraper to a Road Roller."



An Automatic Dump Wagon

SPECIALLY DESIGNED
FOR CONTRACTORS

In our Susquehanna model we offer an exceptionally sturdy and well designed wagon of from 1½ to 3 yards capacity.

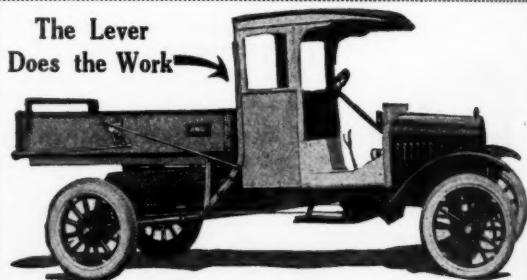
In closing the bottom doors, one side always shuts first, making a dirt-tight joint.

Its light draft, large wheels and short turning radius, make it unusually desirable for road work.

Send for descriptive literature and prices.

The Columbia Wagon and Body Co. Columbia, Pa.

We build the Jennings Automatic Dump Body for Ford Ton and other makes of Ton Trucks. Send for circulars.



A One Man Dump Body for FORD TRUCKS

We have developed an all steel dump body, one yard capacity, for Ford Trucks. The body is built on the

Jennings Patented Lever Dumping Device
and

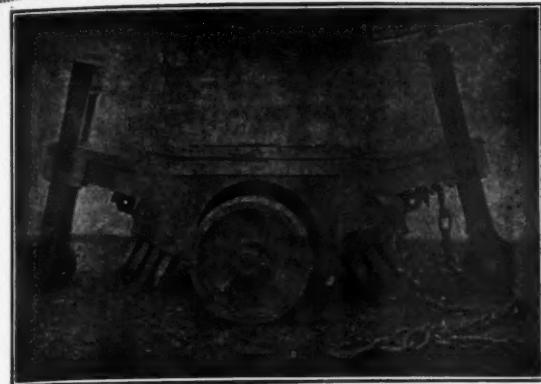
Patented Automatic Tail Gate

and enables you to dump the load by the movement of a lever without any jar to the truck chassis.

The patented lever and tail gate are special Jennings Features.

Write for data.

Jennings Automatic Dump Body, Inc.
ROANOKE, VIRGINIA



**PROFIT INSURANCE
ON YOUR RESURFACING WORK FURNISHED BY
THE PORCUPINE SCARIFIER**

Will break up 400 square yards of macadam a day—a record impossible with any other method

WILL PAY FOR ITSELF IN ONE MONTH

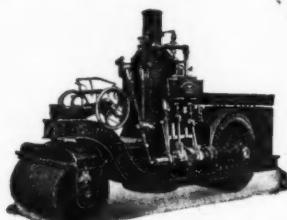
Full details on request

**UNIVERSAL ROAD MACHINERY CO.
Kingston, N. Y.**

141 MILK ST., BOSTON, MASS.

114 LIBERTY ST., NEW YORK, N. Y.

Manufacturers of the famous Reliance line of Road Building,
Quarry and Unloading Equipment



"ERIE"
Tandem
Steam
Rollers
for
STRENGTH
DURABILITY
SIMPLICITY
and

ECONOMY of OPERATION and LONG LIFE
Ask for Catalog "M"

ERIE MACHINE SHOPS
ERIE, PENNA., U. S. A.

**RAYMOND MFG. CO., Ltd.
CORY, PA.**



SPRING SPECIALISTS

Carbon or vanadium steel,
brass or bronze springs.

Engineering advice on your spring problems free!

Send for catalogue.

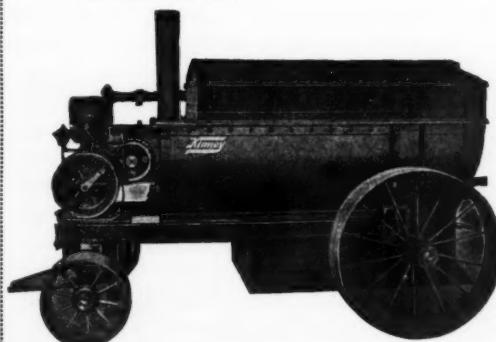


Handy Heater and Sprayer

Especially adapted for road maintenance, construction and general repair work. Contents constantly agitated while heating.

No burning or coking of material. Pump, Piping, Hose, Nozzles Automatically Heated.

No Steam Required.



**Kinney Manufacturing Co.
Boston, Mass.**

**STANDARD WOOD PIPE
MORE DURABLE AND ECONOMICAL**

Will furnish pipe to suit conditions Write for catalogue for full information
STANDARD WOOD PIPE COMPANY - - WILLIAMSPORT, PA.



Save 25% to 50% by using
Wyckoff Wood Pipe
instead of Cast Iron Pipe

Cheaper. Lasts as long. Delivers more water. Get catalogue
A. WYCKOFF & SON CO., ELMIRA, N. Y.

Branches: ATLANTA, GA., H. H. White, 1503 4th Nat. Bank Bldg.
SCRANTON, PA., Valley Supply Co., Coal Exch. Bldg.



**Real
Service**

The kind that saves money for you. The kind that gives you that ease of mind—feeling everything is O.K. That's what you get when you use

MICHIGAN WOOD PIPE

The Pipe for Service

Engineers everywhere know its real value. Think of this—it will not burst, rust or clog, and costs less than iron pipe. Moral—Insist on Michigan and you can't go wrong.

Get the Michigan Book
MICHIGAN PIPE COMPANY, Madison St., BAY CITY, MICH.

Southern Representatives:
CHATTANOOGA, TENN.: Robt. B. Nixon Co., 702 James Bldg.
OKLAHOMA CITY, OKLA.: F. H. Loeffler, 105 W. 16th Street

National Cast Iron Pipe Company

BIRMINGHAM, ALA.

Manufacturers of

**CAST-IRON Water and Gas
Pipe and Fittings, Flanged
Pipe, Flanged Fittings, and
General Castings**

Foundries and Home Office:
Birmingham, Alabama

SALES OFFICES:

122 So. Michigan Ave., Chicago, Ill.
No. 903 Commerce Building Kansas City, Mo.

UNIVERSAL PIPE

NO PACKING

NO CAULKING

NO BELL HOLES

Used throughout the country for water supply,
fire protection, sewage disposal, gas lines, etc.

THE CENTRAL FOUNDRY COMPANY
New York, Chicago, Birmingham, Dallas, San Francisco

GLAMORGAN PIPE & FOUNDRY CO.

LYNCHBURG, VA.

GENERAL FOUNDERS AND MACHINISTS

Manufacturers of

CAST IRON PIPE

For Water and Gas, Flange Pipe and Fittings

P.I.W.

STEEL PLATE CONSTRUCTION

RIVETED STEEL PIPE

Smoke Stacks
Stand Pipes
Caissons

Storage Bins
Oil Storage Tanks
Galvanizing Kettles

and all classes of Steel Plate Construc-
tion for the Iron and Steel Industry.

THE PETROLEUM IRON WORKS CO.
SHARON, PENNSYLVANIA

New York Tulsa St. Louis Houston Tampico
Tulsa Denver San Francisco

"PIPE SPECIALISTS FOR FORTY-EIGHT YEARS"



ROOT SPIRAL RIVETED PIPE

ROOT WATER TUBE BOILERS SPIRAL RIVETED PIPE

ABENDROTH & ROOT MANUFACTURING CO.

Works—Newburgh, N. Y. New York Office—Woolworth Building, 233 Broadway



SEWER PIPE

OF QUALITY

Made of Ohio River Fire Clay.

By test 43% stronger than com-
petitors'. Send for Special Test
Circular.

Cannelton Sewer Pipe Co.
CANNELTON, IND.

SOUTHERN DISTRIBUTOR:
F. R. Thomas Clay Products Co.
Memphis, Tenn.

CAST IRON PIPE - AND FITTINGS -

American Cast Iron Pipe Company
Birmingham, Ala.
SALES OFFICES IN PRINCIPAL CITIES

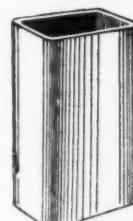
U. S. PRODUCTS

CAST IRON
PIPE

"USICAST"
CASTINGS

United States Cast Iron Pipe & Fdy. Co.
General Offices: Burlington, N. J.

1871 CLAY PRODUCTS OF SUPERIOR QUALITY 1922



FOR the last Half Century we
have been the largest Manufac-
turers in the South of Vitrified
Sewer Pipe, Vitrified Highway
Culvert Pipe, Segment Blocks,
Hollow Tile, Septic Tanks, Flue
Lining, Wall Coping, Tile Silos,
Drain Tile, Chimney Tops.

Ask for free booklets and prices.

CHATTANOOGA SEWER PIPE WORKS
CHATTANOOGA, TENN.

LUDLOW GATE VALVES

Their simplicity is a mark of superiority



The internal mechanism of Ludlow Double Gate Valves consists of two gates and two bevelled faced wedges. The wedges are entirely independent of the gates—working between them.

Ludlow Gate Valves work equally well with pressure either side of Gate.

Made of iron and bronze of the highest grade by the most skilled workmen obtainable.

Southern Representative:

Wm. F. Wilcox, American Trust Bldg., Birmingham, Ala.

The Ludlow Valve Mfg. Co.
TROY, N. Y.

Branch Offices:

Boston New York Chicago Philadelphia Pittsburgh Kansas City

MATHEWS FIRE HYDRANTS

Mathews Compression Type Fire Hydrants were the pioneer Hydrants in the South, and today, after more than fifty years, continue to hold first place in the Water Works Field:

REASON? Correctness of design, quality of material and workmanship.

R. D. WOOD & CO. 400 CHESTNUT STREET
PHILADELPHIA, U. S. A.

COLUMBIAN IRON WORKS CHATTANOOGA, TENN.

MANUFACTURERS OF

Fire Hydrants, Valves, Valve Boxes, Sluice Gates, Meter Boxes, Water-Works Supplies

ALSO MUNICIPAL AND BUILDING CASTINGS

Estimates Promptly Furnished

New Orleans Representative:

J. S. BARELLI

612 Godchaux Bldg.



PUMPS

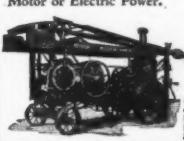
INDUSTRIAL-AGRICULTURAL-MUNICIPAL-RESIDENTIAL

A type for every service

THE GOULDS MANUFACTURING COMPANY
Seneca Falls, N. Y.

GOULDS

**TRADE NAME
KEYSTONE**
MANUFACTURED & IMPORTED
WELL DRILLS



A catalog and price list of Well Drilling Rigs and Equipment, Bits, Steam, Gas, Diesel, Spark, Electric, Etc., will be sent on request.

**TRADE NAME
DOWNE**
MANUFACTURED & IMPORTED
DEEP WELL PUMPS



Downie Deep Well Pumps are offered for Heavy, Continuous Service in Deep Artesian Wells. They are built in Double and Single Stroke Models and may be Steam Driven, Belted, Direct Geared to Motor, or equipped for any other standard form of drive. Smaller Pumps for lighter service. Catalog No. 6 on request. Downie Centrifugal, magne and medium-duty, Catalog 801.

Keystone Driller Company, Beaver Falls, Pa.
117 Broadway, New York • McDonnell Block, Chicago • Justin, Mo.

McGOWAN DUPLEX STEAM AND POWER DRIVEN PUMPS

For every Industrial Activity

THE JOHN H. McGOWAN CO.
CINCINNATI, OHIO, U. S. A.

Hammond-Byrd Iron Co.

1707-1718 American Trust Bldg., Birmingham, Ala.
1328 Peoples Gas Bldg., Chicago, Ill.

Sol Pipe and Fittings, Cast Iron Water and Gas Pipe and Fittings, Merchant Bar Iron, Rivets, By-Product Foundry Coke, Nut Coke, Blacksmith Coal, Shelby Charcoal Pig-Iron, Standard Alabama Pig-Iron.

THE BOURBON COPPER & BRASS WORKS CO

Manufacturers of
**FIRE HYDRANTS and
STOP VALVES**

Water Works and Fire Department Supplies and Extension Valve Boxes
Long Distance Phone, Canal 3297
618 and 620 E. Front Street
CINCINNATI, OHIO



“UNIVERSAL” SEPTIC TANKS

solve the sewerage disposal problem in unsewered communities. Can be used with or without running water. Logical installation for rural schools, suburban homes, mine and industrial villages. CONCRETE PIPE—shipped from factory or made on the job. Concrete Pipe MOLDS—we give you benefit of our experience.

Ask for catalog.
UNIVERSAL CONCRETE PRODUCTS CO.
NEW MARTINSVILLE, W. VA.

LAYNE VERTICAL PUMPS

Entirely self-contained.
Practically automatic.
Rugged in construction.
Only two mechanical working parts, both
operating in an oil bath, and water cooled.
Any capacity from 200 to 5,000 gallons per
minute against any head or pressure.
We also contract for complete well and pumping installations on a guaranteed "Water-or-no-pay" plan, backed by a bond.

Write for Bulletin

LAYNE & BOWLER CO.
MEMPHIS TENNESSEE

"WORLD'S LARGEST WATER DEVELOPERS"

LEFFEL TURBINE WATER WHEELS

HIGH SPEEDS, HIGH POWERS
HIGH EFFICIENCIES

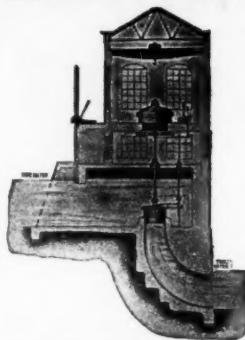
A recent Test of This Type of
Turbine in Place Under 21 Ft.
Head developed 1200 H.P.
134 R.P.M. Efficiency

91.2%

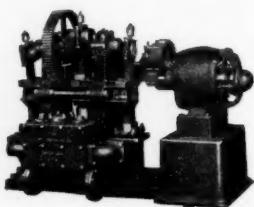
Write For Bulletins

THE JAMES LEFFEL & CO.
SPRINGFIELD, OHIO

BRANCH OFFICES
Atlanta, Ga. - 4th Nat'l Bank Bldg.
New York, N. Y. - 39 Cortland St.
Boston, Mass. - 161 Devonshire St.
Minneapolis, Minn. - Plymouth Bldg.



Smith-Vaile Pumps



Duplex Steam—Triplex Power—Centrifugal
Platt Iron Works Dayton, Ohio

MYERS



We are manufacturers of the well established line of
Myers Single and Double Acting, Force and Lift, Hand,
Windmill and Power Pumps; Tank Pumps and Hydro-
Pneumatic Pumps; Electric House Pumps and Direct
Water Systems; Self-Oiling Power Pumps and Working
Heads; Spray Pumps and Accessories; Cylinders and
Power Working Barrels.

If you are a prospective purchaser of a pump for home,
farm, mill, mine or factory, write us for catalog and
prices.

THE F. E. MYERS & BRO. CO.

ASHLAND, OHIO

PUMPS For Every Purpose



SMITH HYDRAULIC TURBINES

have fewer moving parts
than any wicket gate
turbine on the market.
This means longer life
and less repairs.

Write for Bulletin "M".

S. MORGAN SMITH CO. - York, Pa.

MORRISince 1864

CENTRIFUGAL PUMPS

Since 1864 Morris has been building Centrifugal
Pumps, Hydraulic Dredges and Steam Engines.
You can depend upon the Morris reputation.

Morris Machine Works, Baldwinsville, N. Y.

Agents in Principal Cities

RoTURBo CENTRIFUGAL PUMPS

Manistee Iron Works Co., Manistee, Michigan

EARLE - CENTRIFUGAL - PUMPS



For all purposes where
Centrifugal Pumps of the
better class are adopted

The Earle Gear & Mach. Co.
Philadelphia, Pa., U. S. A.

PUMPS AIR COMPRESSORS

Backed by
The Pennsylvania Guarantee
Pennsylvania Pump & Compressor Co.
EASTON, PENNA.



WELL DRILLING AND DEEP WELL PUMPS

We have a Very Efficient System of
Pumping that we wish to tell you about.
Write for Catalog M.

SYDNOR PUMP & WELL CO., Inc., Richmond, Va.

ARTESIAN WELLS

ANY SIZE ANY DEPTH
DRILLED ANYWHERE

VIRGINIA MACHINERY & WELL COMPANY, Inc.
Dept. M. R. RICHMOND, VA.

September 28, 1922.

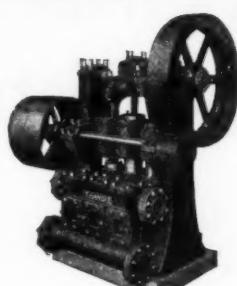
An Unusually High Vacuum Pump

Fig. 1177

5 x 6" Vertical Triplex Power

TRANSIT PUMP

We recommend installing a pump in such a position that the suction will be as low as possible, but there are some installations where a high suction lift is part of the job, and here we try to place one of these pumps to the mutual satisfaction of the customer and ourselves.

It's one of the old stand-bys redesigned and made so well that its capabilities are far above the average for a pump of this type.

Our new Bulletin 302-A describes this pump in detail

**NATIONAL TRANSIT
PUMP & MACHINE COMPANY****OIL CITY, PA.**

District Offices: New York, Philadelphia, Pittsburgh, Cleveland, Kansas City, Houston and Denver

BUSINESS ESTABLISHED 1842

RIDER-ERICSSON ENGINE CO.

Succeeding { Delamater Iron Works
Rider Engine Co.

PUMPING MACHINERY**CENTRIFUGAL****DEEP WELL****AUTOMATIC SUMP****PNEUMATIC SYSTEMS****CONDENSATION****GASOLINE AND KEROSENE****HOT AIR****FOUNDERS AND MACHINISTS**

Branch Offices in Principal Cities

Gen. Office: 20 Murray St., New York City

ERIE**CENTRIFUGAL PUMPS**

For Every Service



Fig. 267
SINGLE SUCTION WATER
PUMP

BELT, MOTOR AND ENGINE DRIVE

ERIE PUMP AND ENGINE WORKS

154 Glenwood Ave.

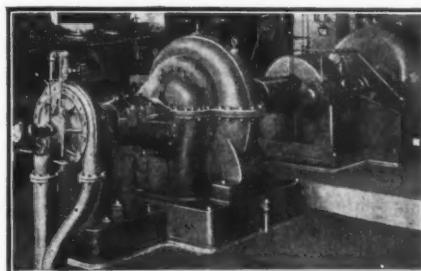
MEDINA, N. Y.



Fig. 239
ENGINE DRIVEN
CONTRACTORS PUMP

**WORTHINGTON****CENTRIFUGAL
PUMP TOPICS**

No. 11



Worthington Pump at Mt. Royal Station, Baltimore, Md.

At Baltimore

"A new duty record for centrifugal pumping engines has been established by a 30 m. g. d. unit in the Mount Royal Station of the Water Works of Baltimore, Md." Thus *Engineering-News-Record* describes the performance of a Worthington Centrifugal water works pump.

The official duty of 170 million at Baltimore is one of the tests that makes Worthington efficiency real—fact founded.

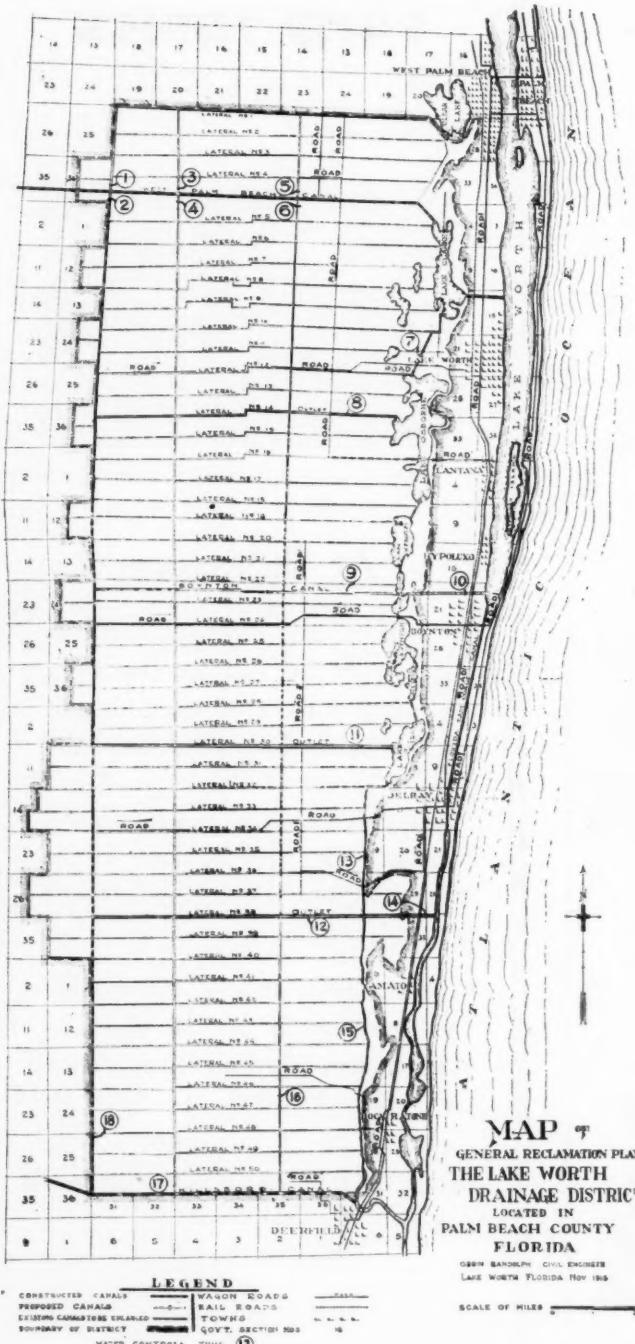
WORTHINGTON PUMP AND MACHINERY CORPORATION

Executive Offices: 115 Broadway, New York City

Branch Offices in 24 Large Cities

W 106.4

Note the Location of Florida's New Drainage District



IN PALM BEACH COUNTY ON
EAST COAST RAILWAY

THE Lake Worth Drainage District, comprising 130,000 acres, is now about completed.

It is one of the most thoroughly designed districts ever organized in the South. Both drainage and sub-irrigation canals have been provided, to give drainage in wet weather and irrigation in dry periods.

The lands have a high value of productiveness and are especially suited for trucking, fruit growing, sugar cane and dairy farming.

Ample shipping facilities are available through the Florida East Coast Railway, supplemented by lateral highways running through the district.

The Model Land Company, which owns thousands of acres in the district, is putting these lands on the market at special terms for immediate development of part of the land.

Full information about this offer, as well as data on other East Coast opportunities will be gladly furnished.

Model Land Company

of The Flagler System

JAMES E. INGRAHAM, President

ST. AUGUSTINE, FLA.

Classified Reference Index for Buyers

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

ACCOUNTANTS. (Certified Public)

Black & Co., Baltimore, Md.

Hill, Norman A., Baltimore, Md.

Todd & McCullough, Charlotte, N. C.

ACETYLENE GENERATORS.

Kentucky Oxygen-Hydrogen Co., Louisville.

AGRICULTURIST. (Consulting)

Morse Agricultural Service, New Orleans.

ANERIAL TRAMWAY.

Broderick & Bascom Rope Co., St. Louis.

Leschen & Sons Rope Co., St. Louis.

AIR COMPRESSORS.

Stationary and Portable.

Construction Mech. Co., Waterloo, Ia.

De Laval Steam Turb. Co., Trenton, N. J.

Domestic Engine & Pump Co., Shippensburg, Pa.

General Electric Co., Schenectady, N. Y.

Ingersoll Rand Co., New York, N. Y.

Penn. Pump & Comp. Co., Easton, Pa.

Sullivan Machinery Co., Chicago, Ill.

Westinghouse Traction Brake Co., Wilmersdorf, Pa.

Worthington Pump & Mech. Corp., N. Y.

AIR AND GAS COMPRESSORS.

Penn. Pump & Comp. Co., Easton, Pa.

AMMETERS.

Weston Electrical Instr. Co., Newark, N. J.

AMMONIA VALVES AND FITTINGS.

Frick Co., Waynesboro, Pa.

Triumph Ice Machine Co., Cincinnati, O.

York Mfg. Co., York, Pa.

Vogt Mch. Co., Inc., Henry, Louisville.

ANNEALING BOXES.

Wilfong Iron Wks. Co., Millard F., Phila.

ANTI-FRICTION METALS.

Bailey-Lebby Co., Charleston, S. C.

Dodge Sales & Engr. Co., Mishawaka, Ind.

More-Jones Brass & Metal Co., St. Louis.

APPRAISERS.

American Appraisal Co., Milwaukee, Wis.

ARCHITECTS.

Wortham & Associates, A., New York, N. Y.

Mariel, F. E., Atlanta, Ga.

Milburn, Heister & Co., Wash'n, D. C.

Sirrine & Co., J. E., Greenville, S. C.

Turner Architectural Service, Balt., Md.

LANDSCAPE.

Draper, E. S., Charlotte, N. C.

Willis, W. N., Spartansburg, S. C.

ARCHITECTS' SUPPLIES.

Starrett Co., L. S., Athol, Mass.

Weber Co., F., Philadelphia, Pa.

ARCHITECTURAL IRON WORK.

Cheasapeake Iron Works, Baltimore, Md.

Dietrich Brothers, Baltimore, Md.

Dow Co., Inc., The, Louisville, Ky.

Snead Architectural Iron Wks., Louisville.

ARMATURE AND FIELD COILS.

Chattanooga Armature Wks., Chattanooga.

ARMATURE WINDING.

Charlotte Elec. Repair Co., Charlotte, N. C.

ART GLASS.

Binswanger & Co., Memphis, Tenn.

ASBESTOS PRODUCTS.

Johns-Manville, Inc., H. W., New York

ASPHALT.

Asphalt Association, New York, N. Y.

Barber Asphalt Co., Phila., Pa.

Gulf Refining Co., Pittsburgh, Pa.

Texas Co., The, New York, N. Y.

PROCESS.

Robertson & H. H., Pittsburgh, Pa.

ROCK.

Kentucky Rock Asphalt Co., Louisville.

ASPHALT FILLER.

Amer. Limestone Co., Knoxville, Tenn.

Texas Co., The, New York, N. Y.

ASPHALT HEATERS.

Kinney Mfg. Co., Boston, Mass.

ASPHALT MIXERS.

Erie Machine Shops, Erie, Pa.

ASPHALT PAVING PLANTS.

Asphalt Association, New York, N. Y.

Cummer & Son Co., F. D., Cleveland, O.

Warren Bros. Co., Boston, Mass.

AUCTIONEERS.

Smith & Jaffe, New York, N. Y.

AUDITORS.

Black & Co., Baltimore, Md.

Hill, Norman A., Baltimore, Md.

Todd & McCullough, Charlotte, N. C.

AUTOMATIC FIRE SPRINKLERS.

Beverly Heating Co., R. C., Richmond, Va.

Grinnell Co., Providence, R. I.

AUTOMATIC TELEPHONE EXCHANGES.

Automatic Electric Co., Chicago, Ill.

AUTOMOBILE ACCESSORIES.

Bailey-Lebby Co., Charleston, S. C.

AUTOMOBILE TIRES.

Kelly-Springfield Tire Co., New York.

AUTOMOBILE TRUCKS.

General Motors Truck Co., Pontiac, Mich.

Packard Motor Car Co., Detroit, Mich.

BABBITT METAL.

More-Jones Brass & Metal Co., St. Louis.

BACKFILLS.

Amer. Cement Mch. Co., Inc., Keokuk, Ia.

Austin Machy. Corp., Chicago, Ill.

Buckeye Traction Ditcher Co., Findlay, O.

Trenet.

Construction Machinery Co., Waterloo, Ia.

BALLAST. (Railroad.)

American Limestone Co., Knoxville, Tenn.

Birmingham Slag Co., Birmingham, Ala.

Tennessee Copper Co., Copperhill, Tenn.

BANKERS AND BROKERS.

Breed, Elliott & Harrison, Cincinnati.

Caldwell & Co., Nashville, Tenn.

Electric Bond & Share Co., New York.

Halsey, Stuart & Co., Chicago, Ill.

Mercantile Trust & Deposit Co., Balto.

Miller & Co., G. L., Atlanta, Ga.

Nuveet & Co., John, Chicago, Ill.

Provident Savings Bank & Trust Co., Cincinnati.

Rosenstiel Co., The Lewis S., Cincinnati.

Seasons & Mayer, Cincinnati.

Silverman Co., W. H., Cincinnati.

Slayton & Co., W. L., Toledo, O.

Title Guaranty & Trust Co., Cincinnati.

BANKS.

Bank of Alabama, Ensley, Ala.

Fifth National Bank, Richmond, Va.

Marine Bank & Trust Co., New Orleans.

Maryland Trust Co., Baltimore, Md.

BARGES. (Steel.)

American Bridge Co., New York, N. Y.

Midland Barge Co., Midland, Pa.

BAR BENDERS.

Electric Welding Co., Pittsburgh, Pa.

Koehring Co., Milwaukee, Wis.

BAR CUTTERS.

Buffalo Forge Co., Buffalo, N. Y.

Electric Welding Co., Pittsburgh, Pa.

BAR IRON. (Refined and Galvanized.)

Republic Iron & Steel Co., Youngstown, O.

BARRELS. (Oak & Gum.)

Chas Heid's Sons, Inc., Norfolk, Va.

BARS.

Steel. Rounds, Flats, Hexagon and

Squares.

Atlanta Bolt & Steel Prod. Co., Atlanta.

Concrete Steel Co., New York, N. Y.

Ingalls Iron Works Co., Birmingham, Ala.

Knoxville Iron Co., Knoxville, Tenn.

Link-Belt Co., St. Louis, Mo.

Hyerson & Son, Jos. T., St. Louis and

New York.

BARS, WIRE, WIRE FABRIC, STEEL.

(For Reinforced Concrete.)

Cincinnati Iron & Steel Co., Cincinnati, O.

Concrec Steel Co., New York, N. Y.

Jones & Laughlin Steel Co., Pittsburgh.

National Steel Fabric Co., Pittsburgh, Pa.

Oliver Iron & Steel Co., Pittsburgh, Pa.

Southern Steel Prod. Co., Richmond, Va.

Truscon Steel Co., Youngstown, O.

Link-Belt Co., Philadelphia, Pa.

Electric Welding Co., Pittsburgh, Pa.

BEAMS, CHANNELS AND ANGLES.

Belmont Iron Works, Philadelphia, Pa.

Carnegie Steel Co., Pittsburgh, Pa.

Cincinnati Iron & Steel Co., Cincinnati.

Ingalls Iron Works Co., Birmingham, Ala.

Link-Belt Co., Inc., Baltimore.

Baltimore Belt Co., Balt., Md.

Druid Oak Belting Co., Inc., Baltimore.

Goodrich Rubber Co., B. F., Akron, O.

Goodyear Tire & Rubber Co., Akron, O.

Reed & Duecker, Memphis, Tenn.

Smith-Courtney Co., Richmond, Va.

BELTING.

Chain.

Caldwell & Son Co., H. W., Chicago, Ill.

Chain Belt Co., Milwaukee, Wis.

Link-Belt Co., Philadelphia, Pa.

Morse Chain Co., Ithaca, N. Y.

Leather. Canvas. Rubber.

Bailey-Lebby Co., Charleston, S. C.

Baltimore Belt Co., Balt., Md.

Druid Oak Belting Co., Inc., Baltimore.

Goodrich Rubber Co., B. F., Akron, O.

Goodyear Tire & Rubber Co., Akron, O.

Reed & Duecker, Memphis, Tenn.

Smith-Courtney Co., Richmond, Va.

BELT CEMENT.

Du Pont de Nemours & Co., Inc., E. I.

Wilmington, Del.

Reed & Duecker, Memphis, Tenn.

AUTOMATIC TELEPHONE EXCHANGES.

Diamond Rubber Co., Akron, O.

Dixon Crucible Co., Jos., Jersey City.

Dixie Mfg. Co., Memphis, Tenn.

Boble & Duecker, Memphis, Tenn.

Zelnicker Supply Co., W. A. St. Louis.

BELT CONVEYORS.

Chain Belt Co., Milwaukee, Wis.

Dixie Mfg. Co., Inc., Louisville, Ky.

Hains Mfg. Co., New York, N. Y.

Portable Mchry. Co., Passaic, N. J.

Robbins Conveying Belt Co., New York.

Boble & Duecker, Memphis, Tenn.

Zelnicker Supply Co., W. A. St. Louis.

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

CONCRETE REINFORCING BARS.

District Bros., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburgh.
Kearny Iron Co., Knoxville, Tenn.
Laclede Steel Co., St. Louis, Mo.
Lyman & Son, Jos. T., St. Louis and New York.
Southern Steel Prod. Co., Richmond, Va.
Truscon Steel Co., Youngstown, O.
Virginia Steel Supply Co., Richmond, Va.

CONCRETE REINFORCING WIRE AND WIRE FABRIC.

American Steel & Wire Co., Chicago, Ill.
Concrete Steel Co., New York, N. Y.
National Steel Fabric Co., Pittsburgh.
Wickwire-Spencer Steel Corp., New York.

CONCRETE ROAD REINFORCING FABRIC.

National Steel Fabric Co., Pittsburgh.

CONDENSERS.

Buffalo Steam Pump Co., Buffalo, N. Y.
Crescent-Morris Co., Philadelphia, Pa.
Ingersoll-Rand Co., New York, N. Y.
Manistee Iron Wks. Co., Manistee, Mich.
Westinghouse El. & Mfg. Co., E. Pittsburgh.
Worthington Pump & Mch. Corp., N. Y.

CONDUITS. (Electrical, Interior, Steel)

Youngstown Sheet & Tube Co., Youngstown, O.

CONDUIT SYSTEMS. (Underground.)

George Constr. Co., Philadelphia, Pa.

CONTRACTORS.

Baylor & Co., C. A. D., Atlanta, Ga.
Concrete Steel Bridge Co., Clarksburg, W. Va.

Douliut & Williams Co., New Orleans.
Foundation Co., The, New York, N. Y.
Fraser, Brace & Co., New York.

Hyde & Baxter, Washington, D. C.
Long Co., M. A., Baltimore.

McDevitt-Fleming Co., Chattanooga, Tenn.
Normoyle & Sons, M. F., Roanoke, Va.
Parlak Constr. Corp., New York, N. Y.
Robinson & Co., Dwight P., New York.
Southeastern Constr. Co., Charlotte, N. C.

Tucker & Laxton, Inc., Boston, Mass.

White Eng. Corp., The J. G., New York.

Widmer Engineering Co., St. Louis, Mo.

Drainage.

Atlantic Gulf & Pacific Co., New York.

Canal Construction Co., Memphis, Tenn.

McGinnis & Co., N. C., Memphis, Tenn.

McWilliams Co., Inc., Memphis, Tenn.

Dredging.

Atlantic Gulf & Pacific Co., New York.

Baylor & Co., C. A. D., Atlanta, Ga.

Electrical.

Clark Jr. Electric Co., Jas., Louisville, Ky.

Huntington & Guerry, Greenville, S. C.

Foundations and Dams.

Baylor & Co., C. A. D., Atlanta, Ga.

Foundation Co., The, New York, N. Y.

Fraser, Brace & Co., New York.

General.

Baylor & Co., C. A. D., Atlanta, Ga.

Cornell-Young Co., Macon, Ga.

Douliut & Williams Co., New Orleans.

Foundation Co., The, New York, N. Y.

Fraser, Brace & Co., New York.

General Eng'r. & Constr. Co., Rockford, Ill.

Hyde & Baxter, Washington, D. C.

Long Co., M. A., Baltimore.

McDevitt-Fleming Co., Chattanooga, Tenn.

Normoyle & Sons, M. F., Roanoke, Va.

Robinson & Co., Dwight P., New York.

Southeastern Constr. Co., Charlotte, N. C.

Stone & Webster, Inc., Boston, Mass.

Tucker & Laxton, Charlotte, N. C.

White Eng. Corp., The J. G., New York.

Leaves.

Bosch & Stanstell, Memphis, Tenn.

Mine Shafts and Tunnels.

Baylor & Co., C. A. D., Atlanta, Ga.

Foundation Co., The, New York, N. Y.

Fraser, Brace & Co., New York.

Bosch & Stanstell, Memphis, Tenn.

Reinforced Concrete.

Baylor & Co., C. A. D., Atlanta, Ga.

Concrete Steel Bridge Co., Clarksburg, W. Va.

Douliut & Williams Co., New Orleans.

Foundation Co., The, New York, N. Y.

Fraser, Brace & Co., New York.

Long Co., M. A., Baltimore.

McDevitt-Fleming Co., Chattanooga, Tenn.

Normoyle & Sons, M. F., Roanoke, Va.

Tucker & Laxton, Charlotte, N. C.

Road and Street Paving.

McCrory Co., J. B., Atlanta, Ga.

Bosch & Stanstell, Memphis, Tenn.

Roofing.

Kansas City Slate & Tile Roofing Co., Kansas City, Mo.

Sewer and Water-Works.

Baylor & Co., C. A. D., Atlanta, Ga.

Foundation Co., The, New York, N. Y.

General Eng'r. & Constr. Co., Rockford, Ill.

Fraser, Brace & Co., New York.

McCrory Co., J. B., Atlanta, Ga.

Tucker & Laxton, Charlotte, N. C.

CONTRACTORS' MCHY. AND SUPPLIES.

American Saw Mill Mchry. Co., Hackettstown, N. J.
Armstrong & Co., Archer, New York.
Berkley & Trusler, Baltimore, Md.
Forschner, Alfred J., Philadelphia, Pa.
Green, Co., H. M., Baltimore, Md.

Hampton Roads Equip. Co., Norfolk, Va.
Harris Bros. Co., Chicago, Ill.

Hoisting Engine Sales Co., New York.

Hollander Eng. Co., N. W., New York, N. Y.

Houston Ry. Co., Co., Houston, Tex.

Ind. Eng'r. Co., Milwaukee, O.

Jennison, Walter B., Jacksonville, Fla.

Mallory Machinery Corp., Baltimore, Md.

Marine Metal & Supply Co., New York.

Miles Machinery Co., Saginaw, Mich.

Miles Contractors' Eng. Co., Chattanooga, Tenn.

Orwin Bros. Co., The, Cleveland, O.

Pipe & Contractors' Sup. Co., New York.

Service Equipment Co., Philadelphia.

South Side Fdry. & Mch. Wks., Charles-

ton, W. Va.

Tarr, Louis A., Inc., Baltimore, Md.

Turner Co., C., Chattanooga, Tenn.

Wilson & Co., E. H., Philadelphia, Pa.

Wilson Tank & Culvert Co., San Antonio, Tex.

CONTRACT WORK WANTED.

(See following classification:)

Boiler and Tank Work.

Castings.

Foundry.

Foundry and Machine Shops.

Gear Cutting.

Machinery.

(Special.)

Ornamental Iron Work.

Pattern Making.

Sheet Metal Work.

Structural Steel and Iron.

Welding Plants.

American Pattern Works Co., York, Pa.

Columbus Forge & Iron Co., Columbus, O.

Roanoke Bridge & Iron Wks., Roanoke, Va.

Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Gentry and Cantilever.

Orton & Steinbrenner Co., Chicago, Ill.

Jib.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Material Handling.

Bay City Dredge Works, Bay City, Mich.

Northwest Eng'r. Co., Chicago, Ill.

Traveling, Hand, Power.

Box, Alfred & Co., Inc., Phila., Pa.

Champion Eng'r. Co., The, Kenton, O.

Cheesecake Iron Works, Baltimore, Md.

Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Material Handling.

Bay City Dredge Works, Bay City, Mich.

Northwest Eng'r. Co., Chicago, Ill.

Traveling, Hand, Power.

Box, Alfred & Co., Inc., Phila., Pa.

Champion Eng'r. Co., The, Kenton, O.

Cheesecake Iron Works, Baltimore, Md.

Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Material Handling.

Bay City Dredge Works, Bay City, Mich.

Northwest Eng'r. Co., Chicago, Ill.

Traveling, Hand, Power.

Box, Alfred & Co., Inc., Phila., Pa.

Champion Eng'r. Co., The, Kenton, O.

Cheesecake Iron Works, Baltimore, Md.

Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Material Handling.

Bay City Dredge Works, Bay City, Mich.

Northwest Eng'r. Co., Chicago, Ill.

Traveling, Hand, Power.

Box, Alfred & Co., Inc., Phila., Pa.

Champion Eng'r. Co., The, Kenton, O.

Cheesecake Iron Works, Baltimore, Md.

Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Material Handling.

Bay City Dredge Works, Bay City, Mich.

Northwest Eng'r. Co., Chicago, Ill.

Traveling, Hand, Power.

Box, Alfred & Co., Inc., Phila., Pa.

Champion Eng'r. Co., The, Kenton, O.

Cheesecake Iron Works, Baltimore, Md.

Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Material Handling.

Bay City Dredge Works, Bay City, Mich.

Northwest Eng'r. Co., Chicago, Ill.

Traveling, Hand, Power.

Box, Alfred & Co., Inc., Phila., Pa.

Champion Eng'r. Co., The, Kenton, O.

Cheesecake Iron Works, Baltimore, Md.

Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Material Handling.

Bay City Dredge Works, Bay City, Mich.

Northwest Eng'r. Co., Chicago, Ill.

Traveling, Hand, Power.

Box, Alfred & Co., Inc., Phila., Pa.

Champion Eng'r. Co., The, Kenton, O.

Cheesecake Iron Works, Baltimore, Md.

Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

Material Handling.

Bay City Dredge Works, Bay City, Mich.

Northwest Eng'r. Co., Chicago, Ill.

Traveling, Hand, Power.

Box, Alfred & Co., Inc., Phila., Pa.

Champion Eng'r. Co., The, Kenton, O.

Cheesecake Iron Works, Baltimore, Md.

Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Shepard Electric Crane & Hoist Co., Mon-

tour Falls, N. Y.

Orton & Steinbrenner Co., Chicago, Ill.

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

DRAFTSMEN'S SUPPLIES.
Weber Co., F., Philadelphia, Pa.

DRAGLINE EXCAVATORS.

Monahan Machine Co., Chicago, Ill.
Northwest Engr. Co., Chicago, Ill.
Orton & Steinbrenner Co., Chicago.
Sauermaier Bros., Chicago, Ill.

DREDGES. (Dipper, Elevator, Hydraulic.)

Austin Machy. Corp., Chicago, Ill.
Bay City Dredge Works, Bay City, Mich.
Bucyrus Co., South Milwaukee, Wis.
Flory Mfg. Co., S. Bangor, Pa.
Marion Steam Shovel Co., Marion, O.
Morris Mach. Works, Baldwinsville, N. Y.
Osgood Co., The, Marion, Ohio.

DREDGING. (River & Harbor Improvement.)

Atlantic, Gulf & Pacific Co., New York.
DRILLING CONTRACTORS.

Hughes Specialty Well Drilling Co., Charleston, S. C.
Pennsylvania Drilling Co., Pittsburgh.

DRILLS.

Artesian Well.
Keystone Driller Co., Beaver Falls, Pa.
Va. Mch. & Wheel. Co., Richmond, Va.

Electric.
Clark Jr. Electric Co., Jas., Louisville, Ky.
Independent Pneumatic Tool Co., Chicago.

Pneumatic.

Ingersoll-Rand Co., New York, N. Y.
Prospecting.

Ingersoll-Rand Co., New York, N. Y.
Keystone Driller Co., Beaver Falls, Pa.
Nagle Electric Co., The W. G., Toledo, O.

Rock and Mining.

Ingersoll-Rand Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.
Wood Drill Works, Paterson, N. J.

DROP FORGINGS.

American Spiral Pipe Wks., Chicago, Ill.
Scranton Forging Co., Scranton, Pa.
Vogt Mch. Co., Inc., Henry, Louisville.

DROP-FORGING MACHINERY.

Biss Co., E. W., Brooklyn, N. Y.

DRY DOCKS. (Builders of.)

American Bridge Co., New York, N. Y.

DRYERS.

Christie Co., L. R., Pittsburgh, Pa.

Gravel.

Renneberg & Sons Co., Edw., Baltimore.

DRYING MACHINERY.

American Process Co., New York, N. Y.
Bailey-Leamy Co., Charleston, S. C.
Buffalo Forge Co., Buffalo, N. Y.
Christie Co., L. R., Pittsburgh, Pa.
Hersch Mfg. Co., South Boston, Mass.

DRYKILNS.

Buffalo Forge Co., Buffalo, N. Y.
Moore Dry Kiln Co., Jacksonville, Fla.

DRYKILN EQUIPMENT.

Moore Dry Kiln Co., Jacksonville, Fla.

DUMB-WAITERS. (Electric.)

Capital Lift & Mfg. Co., Columbus, O.
Kimball Bros. Co., Council Bluffs, Iowa.

DUMP BODIES.

Columbia Wagon & Body Co., Columbia, Pa.
Eagle Wagon Works, Auburn, N. Y.
Jennings Automatic Dump Body, Inc., Roanoke, Va.

DUMP CARS.

International Clay Mchry. Co., Dayton, O.

DUMP WAGONS.

Arcie Wagon Co., Emigsville, Pa.
Austin Mfg. Co., Chicago, Ill.
Columbia Wagon & Body Co., Columbia, Pa.

Eagle Wagon Works, Auburn, N. Y.

DUST-COLLECTING SYSTEMS.

Alien Engr. & Mfg. Co., Savannah, Ga.
Buffalo Forge Co., Buffalo, N. Y.
Kurtkett Sheet Metal Works, Hattiesburg, Miss.

Savannah Blow Pipe Co., Savannah, Ga.
Shreveport Blow Pipe & Sheet Iron Works, Ltd., Shreveport, La.

DUSTPROOFING. (Concrete.)

Master Builders Co., The, Cleveland, O.
Somernon Sons, Inc., L., New York.
Truscon Laboratories The, Detroit, Mich.

DYESTUFFS.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

DYNAMITE. (Industrial and Agricul.)

Atlas Powder Co., Wilmington, Del.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.

DYNAMOS AND MOTORS.

Charleston Industrial Corp., Nitro, W. Va.
Clark Jr. Electric Co., Jas., Louisville, Ky.
Fairbanks-Morse & Co., Chicago, Ill.
Hempill & Co., J. L., Hoboken, N. J.
Ideal Electric & Mfg. Co., Mansfield, O.
Marshall Electric Co., Chicago, Ill.
Motter's Sons, Geo. F., York, Pa.
Nagel, Electric Co., W. G., Toledo, O.
Nashua Ind. Corp., Jacksonville, Tenn.
Niemusbaum & Co., V. M., F. W., Wayne, Ind.
Randie Machinery Co., Cincinnati, O.
Sales Corp., Jas., Washington, D. C.
Triumph Electric Co., Cincinnati, O.
Wagner Electric Corporation, St. Louis.
Westhouse El. & Mfg. Co., E. Pittsburgh.

EJECTORS. (Sewage.)

Lunkenheimer Co., The, Cincinnati, O.
Pacific Flush-Tank Co., New York, N. Y.

ELECTRIC LIGHTING FIXTURES.

Frink, Inc., I. P., New York, N. Y.
Reflectoly Co., The, St. Louis, Mo.

ELECTRIC MACHINERY. (Dynamics, Generators, Motors, etc.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Castle & Wilson, Pittsburgh, Pa.
Charleston Industrial Corp., Nitro, W. Va.
Clark Jr. Electric Co., Jas., Louisville, Ky.
Coleman-Shoemaker Co., Fullerton, Calif.
Crocker-Wheeler Co., Ampere, N. J.
Electric Cont. & Mfg. Co., Cleveland.
Fairbanks-Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Gottschall & Co., L. B., Dallas, Tex.
Gregory Electric Co., Chicago, Ill.
Hempill & Co., J. L., Hoboken, N. J.
Ideal Electric & Mfg. Co., Mansfield, O.
Kiel & Co., Nathan, New York, N. Y.
McMillan, A., Chicago, Ill.
Miles Machinery Co., Saginaw, Mich.
Nagel Electric Co., W. G., Toledo, O.
Nashua Ind. Corp., Jacksonville, Tenn.
Nusbaum & Co., V. M., F. W., Wayne, Ind.
Randie Machinery Co., Cincinnati, O.
Sales Corp., The, Washington, D. C.
Triumph Electric Co., Cincinnati, O.
Wagner Electric Corporation, St. Louis.
Westhouse El. & Mfg. Co., E. Pitts., Pa.
Wickes Machinery Co., Jersey City, N. J.
Wilson Machinery Co., St. Louis, Mo.

ELECTRICAL CONTRACTORS. (Instruments and Supplies.)

Crocker-Wheeler Co., Ampere, N. J.

ELECTRICAL INSTRUMENTS AND SUPPLIES.

Doubleday-Hill Elec. Co., Wash., D. C.
General Electric Co., Schenectady, N. Y.

ELECTRICAL MACHY. REPAIRING. (Motors, Generators, etc.)

Charlotte Elec. Repair Co., Charlotte, N. C.
Chattanooga Armature Wks., Chattanooga.

Doubleday-Hill Electric Co., Washington, D. C.

ELECTRICAL WIRING DEVICES.

Hubbell, Inc., Harvey, Bridgeport, Conn.

ELEVATORS.

Electric.

Am. Elev. & Mch. Co., Inc., Louisville, Ky.

Capital Lift & Mfg. Co., Columbus, O.

K. E. Elev. Mfg. Co., Council Bluffs, Iowa.

Kimball Bros. Co., Council Bluffs, Iowa.

McKinney Co., Council Bluffs, Iowa.

Moffat Mch. Mfg. Co., Charlotte, N. C.

Reedy Elevator Co., Cincinnati, O.

Warren Elevator Co., Baltimore, Md.

Westbrook Elev. Mfg. Co., Danville, Va.

Westbrook Elevator Co., W. J., Green-

boro, N. C.

Hand and Belt Power.

Am. Elev. & Mch. Co., Inc., Louisville, Ky.

Kimball Bros. Co., Council Bluffs, Iowa.

K. C. Elev. Mfg. Co., Kansas City, Mo.

Moffat Mch. Mfg. Co., Charlotte, N. C.

Reedy Elevator Co., Cincinnati, O.

Warren Elevator Co., Baltimore, Md.

Westbrook Elev. Mfg. Co., Danville, Va.

Westbrook Elevator Co., W. J., Green-

boro, N. C.

Hydraulic.

Am. Elev. & Mch. Co., Inc., Louisville, Ky.

K. C. Elev. Mfg. Co., Kansas City, Mo.

Moffat Mch. Mfg. Co., Charlotte, N. C.

Reedy Elevator Co., Cincinnati, O.

Warren Elevator Co., Baltimore, Md.

Westbrook Elev. Mfg. Co., Danville, Va.

Westbrook Elevator Co., W. J., Green-

boro, N. C.

Portable, for Warehouse, Etc.

Dow Co., Inc., The, Louisville, Ky.

New Jersey Fdy. & Mach. Co., New York.

Steam Hydraulie.

Ridgway & Son Co., Coatesville, Pa.

ELEVATOR BUCKETS.

Caldwell & Son Co., H. W., Chicago.

Herrick Mfg. Co., Carbondale, Pa.

Link-Bell Co., Philadelphia, Pa.

ELEVATOR CABLES.

Lesches & Sons Rope Co., A., St. Louis.

ELEVATOR ENCLOSURES AND CARS.

Dow Co., Inc., The, Louisville, Ky.

Dufur & Co., Baltimore, Md.

Dufur, Baggett & Co., Baltimore, Md.

ENGINEERS.

Agricultural.

Morse Agricultural Service, New Orleans.

Alkali.

Mount, W. D., Lynchburg, Va.

Appraisal.

Allison, Walter A., Philadelphia, Pa.

Amer. Appraisal Co., Milwaukee, Wis.

Aran & Co., Inc., M. H., New York.

Black & Veatch, Kansas City, Mo.

Crow Inc., Waller, Chicago, Ill.

Day & Zimmerman, Inc., Phila., Pa.

Engineering & Associates, Howard N.

Pittsburgh, Pa.

Parsons, Klapp, Brinckerhoff & Douglas.

New York, N. Y.

Posey, James, Baltimore, Md.

Robinson & Co., Dwight P., New York.

Stone & Webster, Inc., Boston, Mass.

Tucker & Laxon, Charlotte, N. C.

Weller, Francis R., Washington, D. C.

White Engr. Corp., The J. G., New York.

White, Gilbert C., Lynchburg, Va.

Williams, W. N., Spartanburg, S. C.

Widmer Engineering Co., St. Louis, Mo.

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

Landscape. Ashworth, F. K., Miami, Fla. Draper, E. S., Charlotte, N. C. Levees. Ayres & Miller, Memphis, Tenn. Farnes Eng. Co., Pine Bluff, Ark. Lighting. Blythe Engineering & Management Corp., Chicago, Ill. Ford, Bacon & Davis, Inc., New York. Greenwood Eng'r. Co., Philadelphia. Huntington Guerry, Greenville, S. C. McCarter Co., J. B., Atlanta, Ga. Posey, James, Baltimore, Md. Wiley & Wilson, Lynchburg, Va. Limekin. Meade & Co., Richard K., Baltimore, Md. Mount, W. D., Lynchburg, Va. Management. Hill, Norman A., Baltimore, Md. Mechanical. Biggs Eng'r. Co., W. E., Knoxville, Tenn. Camp & Associates, E. V., Atlanta, Ga. Day & Zimmerman, Inc., Philadelphia. Elwert, F. H., Balt., Md. George Conz, Co., Philadelphia. Lee, William S., Charlotte, N. C. Lide, Martin J., Birmingham, Ala. Lushen, The Daniel M., Cleveland, O. Market, F. E., Atlanta, Ga. Meuse & Co., W. E., Baltimore, Md. Meus & Meuse, Charlotte, N. C. Mount, W. D., Lynchburg, Va. M. O. & W. Engineering Corp., Norton, Va. Posey, James, Baltimore, Md. Reid, J. G., Chicago, Ill. Fall & Nordmeyer Eng'r. Co., St. Louis. Wiley & Wilson, Lynchburg, Va. Metallurgical. Meade & Co., Richard K., Baltimore, Md. Tait Godfrey, M. S., Washington, D. C. Mining. Clark & Krebs, Charleston, W. Va. Maxon & Associates, Howard N., Pittsburgh, Pa. M. O. & W. Engineering Corp., Norton, Va. Tait Godfrey, M. S., Washington, D. C. Municipal. Albright & Mebus, Philadelphia, Pa. Archer & Co., E. T., Kansas City, Mo. Ashworth, F. K., Miami, Fla. Baines, S. H., Birmingham, Ala. Camp & Associates, E. V., Atlanta, Ga. Clark & Krebs, Charleston, W. Va. Doullut & Williams, Co., New Orleans. Dow & Smith, New York, N. Y. George Conz, Co., Philadelphia. Hill, C. E., B. Jacksonville, Fla. Klyce, B. H., Nashville, Tenn. Ludlow Engineers, Winston-Salem, N. C. McCalla & Co., J. B., Knoxville, Tenn. McCrary Co., J. B., Atlanta, Ga. Parker Eng. Co., Pine Bluff, Ark. White, Gilbert C., Durham, N. C. Packing-House. Burt & Co., M. P., Memphis, Tenn. Paving and Roads. Albright & Mebus, Philadelphia, Pa. Archer & Co., E. T., Kansas City, Mo. Baines, S. H., Birmingham, Ala. Camp & Associates, E. V., Atlanta, Ga. Carolina Eng'r. Co., Wilmington, N. C. Dow & Smith, New York, N. Y. Freeland, Roberts & Co., Nashville. Klyce, B. H., Nashville, Tenn. Ludlow Engineers, Winston-Salem, N. C. McCalla & Co., J. B., Knoxville, Tenn. McCrary Co., J. B., Atlanta, Ga. Parker Eng. Co., Pine Bluff, Ark. White, Gilbert C., Durham, N. C. Public Services Properties. Abram & Co., Inc., M. H., New York. Blythe Engineering & Management Corp., Chicago, Ill. Cooper & Co., Hugh L., New York. Day & Zimmerman, Inc., Phila., Pa. Ford, Bacon & Davis, Inc., New York. Farnes Eng'r. Co., Brinckerhoff & Douglas, New York, N. Y. Robinson & Co., Dwight P., New York. Seaford Engineering Co., Philadelphia. Stone & Webster, Inc., Boston, Mass. Weller, Francis B., Washington, D. C. White Eng'r. Corp., The J. G., New York. Railroads. Clark & Krebs, Charleston, W. Va. Meus & Meuse, Charlotte, N. C. Willis, W. N., Spartanburg, S. C. Refrigerating. Baker Ice Machine Co., Omaha, Nebr. Burrows, E. A., Chicago, Ill. Burt & Co., M. P., Memphis, Tenn. Hawley, Charles, Washington, D. C. Marisol, F. E., Atlanta, Ga. Phillips & Hill, Inc., New York. York Mfg. Co., York, Pa. Reinforced Concrete. (Bridges) Building Eng'r. Co., Pittsburgh, Pa. Ayres & Miller, Memphis, Tenn. Camp & Associates, E. V., Atlanta, Ga. Caroline Eng'r. Co., Wilmington, N. C. Concrete Steel Bridge Co., Clarksburg, W. Va. Foulkhouse, J. A., New York, N. Y. Freeland, Roberts & Co., Nashville. Fuston, Walter J., Dallas, Tex. Gardner & Howe, Memphis, Tenn. Greiner & Co., J. E., Baltimore, Md. Hutton & Schreffer, Baltimore, N. C. Lutze, C. A., Baltimore. Lutze, Daniel, Indianapolis, Ind. McDevitt-Fleming Co., Chattanooga, Tenn. Mead & Co., Richard E., Baltimore, Md. Olson, O., Jacksonville, Fla. Parsons, Klapo, Brinckerhoff & Douglas, New York, N. Y. Rossiter & Co., Dwight P., New York. Rossiter & Co., Pittsburgh, Pa. Sanders & Swasey, Anderson, S. C. Smith Co., The, Birmingham, Ala. Spiker & Lose, Atlanta, Ga. Steel, J. J. A., Knoxville, Tenn. Tucker & Laxon, Charlotte, N. C. Turner, C. A. F., Minneapolis, Minn. White Eng'r. Corp., The J. G., New York. Willis, W. N., Spartanburg, S. C. Roofing. Kansas City Slate & Tile Roofing Co., Kansas City, Mo. Sewerage and Water-Works. Albright & Mebus, Philadelphia, Pa. Archer & Co., E. T., Kansas City, Mo. Ayres & Miller, Memphis, Tenn. Black & Veatch, Kansas City, Mo. Camp & Associates, E. V., Atlanta, Ga. Farnell Eng'r. Co., Wilmington, Del. Ford, Bacon & Davis, Inc., New York. Hill Co., George B., Jacksonville, Fla. Klyce, B. H., Nashville, Tenn. Ludlow Engineers, Winston-Salem, N. C. McCalla & Co., J. B., Knoxville, Tenn. Nease, M. M., Charlotte, N. C. Parkes Eng'r. Co., Pine Bluff, Ark. Posey, James, Baltimore, Md. Sanders & Sweeney, Anderson, S. C. Smith Co., The, Birmingham, Ala. Tucker & Laxon, Charlotte, N. C. White Eng'r. Corp., The J. G., New York. White, Gilbert C., Durham, N. C. Willis, W. N., Spartanburg, S. C. Sewerage Disposal Plants. Ludlow Engineers, Winston-Salem, N. C. McCalla & Co., J. B., Knoxville, Tenn. McCrary Co., J. B., Atlanta, Ga. Parkes Eng'r. Co., Pine Bluff, Ark. Posey, James, Baltimore, Md. Steel Works and Rolling Mills. Smythe Co., S. R., The, Pittsburgh, Pa. Structural Steel. Freeland, Roberts & Co., Nashville. Fuston, Walter J., Dallas, Tex. Hill Co., George B., Jacksonville, Fla. Ingalls Iron Works Co., Birmingham. Shearer, C. E., Memphis, Tenn. Spiker & Lose, Atlanta, Ga. Turner, C. A. F., Minneapolis, Minn. Trolley Mills. Long Co., M. A., Baltimore. Main, Chas. T., Boston, Mass. Sanders & Sweeney, Anderson, S. C. Birrane & Co., J. E., Greenville, S. C. Ventilating and Heating. Biggs Eng'r. Co., W. E., Knoxville, Tenn. Market, F. E., Atlanta, Ga. Wiley & Wilson, Lynchburg, Va. ENGINES. Compressed Air. Duke Engine Co., Grand Haven, Mich. Coriolis. Sun Shipbuilding Co., Chester, Pa. Vilter Mfg. Co., Milwaukee, Wis. Gas and Gasoline. Bessemer Gas Engine Co., Grove City, Pa. Climax Eng'r. Co., Clinton, Iowa. Construction Machinery Co., Waterloo, Ia. Domestic Engine & Pump Co., Shippensburg, Pa. Fairbanks-Morse & Co., Chicago, Ill. Foss Gas Engine Co., Springfield, O. National Transit Pump & Mch. Co., Oil City, Pa. Hoisting. Mundy Hoisting Engine Co., J. S., Newark, N. J. National Hoisting Engine Co., Harrison, N. J. Stroudsburg Engine Wks., Stroudsburg, Pa. Marine. Curtis Bay Copper & Iron Works, Inc., Baltimore, Md. Murray Iron Works, Burlington, Ia. Oil. Anderson Fdry. & Mch. Co., Anderson, Ind. Bessemer Gas Eng. Co., Grove City, Pa. Buckeye Machine Co., The Lima, O. Fairbanks-Morse & Co., Chicago, Ill. Gage Engine Co., Springfield, O. Ingersoll-Rand Co., New York, N. Y. Kehoe, Robert, New York, N. Y. McMillan, A., Chicago, Ill. National Transit Pump & Mch. Co., Oil City, Pa. Power Mfg. Co., The Marion, O. Worthington Pump & Mch. Corp., N. Y. Steam. Allis-Chalmers Mfg. Co., Milwaukee, Wis. Brownell Co., Dayton, O. Caldwell & Co., E. R., Bradford, Pa. Cole Mfg. Co., R. D., Newnan, Ga. Corinto Mchry. Co., Corinth, Miss. City Iron Works, Erie, Pa. Erie Pump & Mch. Wks., Medina, N. Y. Harris Bros. Co., Chicago, Ill. Houston, Stanwood & Gamble Co., Cincinnati, O. Leffel & Co., James, Springfield, O. Lombard Iron Wks. & Sup. Co., Augusta, Ga. Miller, F. A., Chicago, Ill. Morris, Mch., Wks., Baldwin, Pa. Murray Iron Wks. Co., Burlington, Iowa. National Transit Pump & Mch. Co., Oil City, Pa. Biddle Machinery Co., Cincinnati, O. Senofield's Iron Works, Macon, Ga. Fencing. Field and Industrial. (Wire Woven.) Allis-Chalmers Mfg. Co., Milwaukee, Wis. Brownell Co., Dayton, O. Caldwell & Co., E. R., Bradford, Pa. Cole Mfg. Co., R. D., Newnan, Ga. Corinto Mchry. Co., Corinth, Miss. City Iron Works, Erie, Pa. Erie Pump & Mch. Wks., Medina, N. Y. Harris Bros. Co., Chicago, Ill. Houston, Stanwood & Gamble Co., Cincinnati, O. Leffel & Co., James, Springfield, O. Lombard Iron Wks. & Sup. Co., Augusta, Ga. Miller, F. A., Chicago, Ill. Morris, Mch., Wks., Baldwin, Pa. Murray Iron Wks. Co., Burlington, Iowa. National Transit Pump & Mch. Co., Oil City, Pa. Biddle Machinery Co., Cincinnati, O. Senofield's Iron Works, Macon, Ga. Fencing, Entrance Gates. (Iron, Steel, Wire). Amer. Fence Const. Co., New York. American Steel & Wire Co., Chicago, Ill. Anchor Post Iron Works, New York, N. Y. Midvale Steel & Ordnance Co., Philadelphia. Pittsburgh Steel Co., Pittsburgh, Pa. Wickwire-Spencer Steel Corp., New York. Galvanized, Concrete. Amer. Sheet & Tin Plate Co., Pittsburgh. Fencing, Entrance Gates. (Iron, Steel, Wire). Amer. Fence Const. Co., New York. American Steel & Wire Co., Chicago, Ill. Anchor Post Iron Works, New York, N. Y. Dufur & Co., Baltimore, Md. Murray Iron Wks. Co., Burlington, Iowa. National Transit Pump & Mch. Co., Oil City, Pa. Biddle Machinery Co., Cincinnati, O. Senofield's Iron Works, Macon, Ga. FLOOR HARDENER. (Concrete.) Master Builders Co., Cleveland, O. Sonnenborn Sons, Inc., L. N., New York. FLOOR PLATES AND STAIR TREADS. Eversen & Son, Jos. T., St. Louis and New York. FLOOR AND GRIST-MILL MCHY. AND SUPPLIES. Caldwell & Son Co., H. W., Chicago, Ill.

Steering. Mundy Hoisting Engine Co., J. S., Newark, N. J.

Traction. Austin-Western Road Mch. Co., Chicago.

ENVELOPES. Smith Co., Oscar T., Baltimore, Md. Young & Seiden Co., Baltimore, Md.

FILTERS. For Domestic & Industrial Purposes. American Water Softener Co., Phila., Pa. International Filter Co., Chicago, Ill. New York Continental Jewell Filtration Co., The Nutley, N. J. Roberts Filter Mfg. Co., Darby, Pa. Scaife & Sons Co., Win. B., Pittsburgh.

FINANCING. Electric Bond & Share Co., New York. Miller & Co., G. L., Atlanta, Ga.

FIRE CLAY. Ashland Fire Brick Co., Ashland, Ky. Cambria Clay Products Co., Blackforn, O. Cannetton Clay Prod. Co., Cannetton, Ind. Cannetton Stear Pipe Co., Cannetton, Ind. Green Fire Clay Co., P. O., Newark, Mo. Howard Refractories Co., Dorsey, Md. Portsmouth Refractories Co., The, Portsmouth, O. Walsh Fire Clay Prod. Co., St. Louis. West Va. Fire Clay Mfg. Co., Pittsburgh.

FIRE CLAY FLUE LININGS. Stevens Bros. & Co., Stevens Pottery, Ga.

FIRE ESCAPES. Chesapeake Iron Works, Baltimore, Md. Dow Co., Inc., The Louisville, Ky.

FIRE-EXIT LATCHES. Vonnegut Hardware Co., Indianapolis.

FIRE EXTINGUISHERS. Myers & Bro. Co., The F. E., Ashland, O.

FIREPLACES. (Brick and Tile.) Hood Brick Co., B. Mifflin, Atlanta, Ga.

FIREPROOF BUILDING MATERIAL. Bannon Pipe Co., Louisville, Ky. Robertson Co., H. H., Pittsburgh, Pa. Marbleloid Co., The, New York, N. Y.

FIREPROOF DOORS AND SHUTTERS. Dahstrom Metallic Door Co., Jamestown, N. Y. Kinnear Mfg. Co., Columbus, O. Moesch-Edwards Corrug. Co., Cincinnati. Richmond Fireproof Door Co., Richmond, Ind.

Tin Clad. Lenderking, Philip H., Baltimore, Md.

FIREPROOFING. (Brick and Tile.) Hood Brick Co., B. Mifflin, Atlanta, Ga. Oconee Bk. & Tile Co., Milledgeville, Ga.

FITTINGS. (Wire Rope.) Leschen & Sons Co., A., St. Louis.

FIXTURES. (Electric Lighting.) Frink, Inc., I. P., New York, N. Y. Reflectolyte Co., The, St. Louis, Mo.

FLANGES AND FLANGED FITTINGS. Grinnell Co., Providence, R. I.

FLANGES. (Iron and Steel.) Amer. C. I. Pipe Co., Birmingham, Ala. American Spiral Pipe Co., Chicago, Ill. Dart Mfg. Co., E. M., Providence, R. I. Nat'l. Cast Iron Pipe Co., Birmingham, U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J. Vogt Machine Co., Inc., Henry, Louisville. Wood & Co., R. D., Philadelphia, Pa.

FLOORING. Composition. Johns-Manville, Inc., H. W., New York. Marbleloid Co., The, New York, N. Y.

Crossed Blocks. Long-Bell Lumber Co., Kansas City, Mo.

Hardwood. Maple, Oak. Bartholomew Hardwood Co., E., Chicago. Boone Fork Mfg. Co., Johnson City, Tenn. Long-Bell Lumber Co., Kansas City, Mo. McEwen Lumber Co., Norfolk, Va.

FLOOR HARDENER. (Concrete.) Master Builders Co., Cleveland, O. Sonnenborn Sons, Inc., L. N., New York.

FLOOR PLATES AND STAIR TREADS. Eversen & Son, Jos. T., St. Louis and New York.

FLOOR AND GRIST-MILL MCHY. AND SUPPLIES. Caldwell & Son Co., H. W., Chicago, Ill.

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

FLUE LINING.

Owensboro Sewer Pipe Co., Owensboro, Ky.
Clay.

Oconee Br. & Tile Co., Milledgeville, Ga.

FLUSH-TANK SIPHONS.

Pacific Flush-Tank Co., New York, N. Y.

FORGES.

Buffalo Forge Co., Buffalo, N. Y.

FORGINGS.

Bethlehem Steel Co., Bethlehem, Pa.
Columbus Forge & Iron Co., The, Colum-
bus, O.

Brass and Bronze.

Mueller Metal Co., Port Huron, Mich.
Railway and Industrial.

Laclede Steel Co., St. Louis, Mo.
Midvale Steel & Ordnance Co., Phila.

FORMS, STEEL.

For Concrete Culverts, Roads,
Streets, Sidewalks, Tiles.

Blaw-Knox Co., Pittsburgh, Pa.
Concrete Steel Co., New York, N. Y.

Heltzel Steel Form & Iron Co., Warren, O.

Curb.

Heltzel Steel Form & Iron Co., Warren, O.

Curb and Gutter.

Heltzel Steel Form & Iron Co., Warren, O.

FORM CLAMPS.

Concrete Steel Co., New York, N. Y.

FOUNDRY EQUIPMENT & SUPPLIES.

Hill & Griffith Co., The, Cincinnati, O.

FOUNDRY FACINGS. (Talc and Soap-
stone.)

Hill & Griffith Co., The, Cincinnati, O.

FOUNDRY AND MACHINE SHOPS.

Charleston Dry Dock & Mch. Co., Charles-
ton, S. C.
Glasgow Pipe & Fdy. Co., Lynchburg,
Va.
Goldeins' Fdy. & Mch. Co., Columbus, Ga.
Grainger & Co., Inc., Louisville, Ky.
Lombard Iron Wks. & Sons Co., Augusta,
Sun Shipbuilding Co., Chester, Pa.
Titus, E. E., Petersburg, Va.

FRAMES. (Automobile and Truck.)

Sharon Pressed Steel Co., Sharon, Pa.

FRONTS. (Store.)

Zouri Drawn Metals Co., Chicago Hts., Ill.

FURNACE-DOOR ARCH.

Green Fire Brick Co., A. P., Mexico, Mo.

FURNACES.

For Industrial Purposes.

Smythe Co., The S. H., Pittsburgh, Pa.

FURNACE LININGS.

Green Fire Brick Co., A. P., Mexico, Mo.

FURNITURE. (Shop.)

Western Tool & Mfg. Co., Springfield, O.

FUSES. (Electrical.)

Johns-Manville, Inc., H. W., New York.

GALVANIZED STEEL AND IRON.

Amer. Rolling Mill Co., Middletown, O.
Amer. Sheet & Tin Plate Co., Pittsburgh,
Falcon Steel Co., The, Niles, O.
McCalla Co., Harold, Philadelphia, Pa.
Republic Iron & Steel Co., Youngstown,
Wheeling Steel Prod. Co., Wheeling, W.
Va.

Wood Iron & Steel Co., Alan, Phila., Pa.
Youngstown Sheet & Tube Co., Youngs-
town, O.

GALVANIZING KETTLES.

Wilsons Iron Wks. Co., Millard F., Phila.

GAS COMPRESSORS.

Ingersoll-Rand Co., New York, N. Y.

GASOLINE AND KEROSENE.

Empire Refinery, Inc., Tulsa, Okla.
Gulf Refining Co., Pittsburgh, Pa.
Sapulpa Refining Co., Tulsa, Okla.
Texas Co., The, New York, N. Y.

GAS PLANTS.

Morgan Construction Co., Worcester, Mass.

GAS PRODUCERS.

Morgan Construction Co., Worcester, Mass.
Smith Gas Engr. Co., Dayton, O.
Smythe Co., The S. R., Pittsburgh, Pa.
Westinghouse El. & Mfg. Co., E. Pitts-
burgh.

Wood & Co., B. D., Philadelphia, Pa.

GATES. (Automatic Drainage.)

Armeo Cul & Flume Mfr. Assn., Chicago.

GEARS.

Caldwell & Son Co., H. W., Chicago.
De Laval Steam Turbine Co., Trenton,
N. J.
Earle Gear & Mch. Co., The, Phila., Pa.
Fawcett Machine Co., Pittsburgh, Pa.
General Electric Co., Schenectady, N. Y.
Niles-Bement-Pond Co., New York, N. Y.
Herringbone Reduction,
Fawcett Machine Co., Pittsburgh, Pa.

GEAR CUTTING.

Fawcett Machine Co., Pittsburgh, Pa.
Universal Machine Co., Baltimore, Md.

GEOLOGISTS.

Crow Inc., Waller, Chicago, Ill.
Froehling & Robertson, Richmond, Va.
M. O. & W. Engineering Corp., Norton, Va.

GLASS.

Plate, Etc.,
Biswanger & Co., Memphis, Tenn.
Hires-Turner Glass Co., Washington, D. C.

Window.

American Window Glass Co., Pittsburgh.

GLUE. (Marine.)

Binney & Smith Co., New York, N. Y.

GRADERS.

Elevating,
Austin Mfg. Co., Chicago, Ill.

Turbine,
Koehring Co., Milwaukee, Wis.

GRAIN ELEVATOR SUPPLIES.

Caldwell & Son Co., H. W., Chicago.
Weller Mfg. Co., Chicago, Ill.

GRAPHITE.

Dixon Crucible Co., Jos., Jersey City, N. J.

GRATES AND GRATE BARS.

Armstrong Mfg. Co., Springfield, O.
Covington Mach. Co., Inc., Covington, Va.

McClave-Brooks Co., Scranton, Pa.
Murray Iron Works Co., Burlington, Ia.
Thomas Grate Bar Co., Birmingham, Ala.
Vogt Mch. Co., Inc., Henry, Louisville.

GRATE BACKS.

Cannelton Clay Prod. Co., Cannelton, Ind.

GRAVEL. (Roofing and Road.)

American Limestone Co., Knoxville, Tenn.
Arundel Corp., The, Baltimore, Md.
Bozley & Co., W. W., Roanoke, Va.
Friend & Co., Inc., Petersburg, Va.
Kirkpatrick Sand & Cement Co., Bir-
mingham, Ala.

Petersburg Sand & Gravel Corp., Peters-
burg, Va.

GRAVITY CONVEYOR CHUTES.

Dow Co., Inc., The, Louisville, Ky.

GRAVITY ROLLER CONVEYORS.

Dow Co., Inc., The, Louisville, Ky.
Taplin-Rice-Clerkin Co., Akron, O.

GREASE.

Cook's Sons, Inc., Adam, New York.

GREASE CUPS.

Cook's Sons, Inc., Adam, New York.

Lunkenheimer Co., The, Cincinnati, O.

GREASE AND LUBRICATING COM-
POUNDS.

Borne-Schrymer Co., New York, N. Y.
Cook's Sons, Inc., Adam, New York.

Robinson & Son Co., Wm. C., Balt., Md.

Texas Co., The, New York, N. Y.

GRINDERS. (Gypsum, Limestone, Etc.)

Raymond Bros. Impact Pulv. Co., Chicago.
Williams Patent Crusher & Pulverizer Co.,
Chicago.

GRINDING MACHINERY. (Flexible
Shaft.)

Strand & Co., N. A., Chicago, Ill.

GRINDING WHEELS.

Carborundum Co., Niagara Falls, N. Y.

GUNPOWDER.

Atlas Powder Co., Wilmington, Del.

Du Pont de Nemours & Co., Inc., E. I.,
Wilmington, Del.

Hercules Powder Co., Wilmington, Del.

HANGERS.

Doors,
Richards-Wilcox Mfg. Co., Aurora, Ill.

LINE SHAFT.

Wood's Sons Co., T. B., Chambersburg,
Pa.

HARBOR IMPROVEMENTS.

Atlantic, Gulf & Pacific Co., New York.

HARDWARE. (Builders.)

Vonnegut Hardware Co., Indianapolis.

HEATERS. (Asphalt.)

Cummer & Son, F. D., Cleveland, O.

HEATING APPARATUS — ENGINES
AND CONTRACTORS.

Allen Engr. & Mfg. Co., Savannah, Ga.
Beverley Heating Co., R. C., Richmond,
Va.
Burdal Forge Co., Buffalo, N. Y.
Grinnell Co., Providence, R. I.
Hammond Heating Co., Cincinnati, O.
Motters Sons, Geo. F., York, Pa.

HOISTING MACHINERY.

Allen Engineering Co., Philadelphia, Pa.
Dake Engine Co., Grand Haven, Mich.
Lidgerwood Mfg. Co., New York, N. Y.
Mundy Hoisting Engine Co., J. S.,
Newark, N. J.
National Hoisting Eng. Co., Harrison,
N. J.

Patten Mfg. Co., Chattanooga, Tenn.

Shepard Electric Crane & Hoist Co.,
Montour Falls, N. Y.

Stroudsburg Engine Wks., Stroudsburg, Pa.

United Iron Works, Kansas City, Mo.

HOISTS.

Air, Portable,
Sullivan Machinery Co., Chicago, Ill.
Chain.

Box & Co., Alfred, Inc., Phila., Pa.
Dake Engine Co., Grand Haven, Mich.
Reading Chain & Block Corp., Reading,
Pa.

Wright Mfg. Co., Lisbon, O.

Elevators.

Box & Co., Alfred, Inc., Phila., Pa.
Byers Machine Company, Ravenna, O.
Elect. Hoist & Derrick Co., Hog Island, Pa.
Flory Mfg. Co., S. Bangor, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Link-Belt Co., Philadelphia, Pa.
Smith Hoisting Engine Co., J. S., Newark,
N. J.

Patten Mfg. Co., Chattanooga, Tenn.

Reading Chain & Block Corp., Reading,
Pa.

Shepard Electric Crane & Hoist Co.,
Montour Falls, N. Y.

United Iron Works, Kansas City, Mo.

Gasoline.

Byers Machine Company, Ravenna, O.
Domestic Engine & Pump Co., Shippensburg,
Pa.
Lidgerwood Mfg. Co., New York, N. Y.

Patten Mfg. Co., Chattanooga, Tenn.

Steam.

Amer. Cement Mch. Co., Inc., Keokuk, Ia.
Dake Engine Co., Grand Haven, Mich.
Lidgerwood Mfg. Co., New York, N. Y.
National Hoisting Engine Co., J. S., Newark,
N. J.

Smith Hoisting Engine Co., Harrison,
N. J.

Stroudsburg Engine Wks., Stroudsburg, Pa.

United Iron Works, Kansas City, Mo.

Holding.

Amer. Hoist & Derrick Co., The, Chicago,
Ill.

Reading Chain & Block Corp., Reading,
Pa.

Shepard Electric Crane & Hoist Co.,
Montour Falls, N. Y.

United Iron Works, Kansas City, Mo.

HOLLOW BUILDING TILE.

Chattanooga Sewer Pipe Works, Chatta-
nooga, Tenn.

Oconee Br. & Tile Co., Milledgeville, Ga.

Williams Brick Co., F. Graham, Atlanta.

HOMES. (Fabricated.)

Minter Homes Co., Greenville, S. C.

Multiple Pressed Steel.

Truscon Steel Co., Youngstown, O.

HULLS. (Steel for Boats and Barges.)

American Bridge Co., New York, N. Y.
Midland Barge Co., Midland, Pa.

HUMIDIFYING AND DRYING EQUIP-
MENT.

Grinnell Co., Providence, R. I.

HYDRANTS.

Bourbon Cap & Brass Wks., Cincinnati.

Columbian Iron Wks., Chattanooga, Tenn.

Ludlow Valve Mfg. Co., Troy, N. Y.

Myers & Bros. Co., The F. E., Ashland, O.

Wood & Co., B. D., Philadelphia, Pa.

HYDRAULIC MACHINERY.

Caldwell & Co., E. R., Bradford, Pa.

ICE CREAM FREEZERS. (Direct Ex-
pansion.)

Continental Machinery Co., Chicago, Ill.

Ice Cream Co., Canton, O.

Baker Ice Machine Co., Inc., Omaha,

Nebraska.

Continental Machinery Co., Chicago, Ill.

Frick Co., Wausau, Pa.

Ice Machine Co., Charlotte, N. C.

Triumph Ice Mach. Co., The, Cincinnati.

United Iron Works, Kansas City, Mo.

Vitter Mfg. Co., Milwaukee, Wis.

Vogt Mch. Co., Inc., Henry, Louisville.

York Mfg. Co., York, Pa.

ICE-MAKING MCHY. AND SUPPLIES.

Arctic Ice Machine Co., Canton, O.

Baker Ice Machine Co., Inc., Omaha,

Nebraska.

Continental Machinery Co., Chicago, Ill.

Frick Co., Wausau, Pa.

Ice Machine Co., Charlotte, N. C.

Triumph Ice Mach. Co., The, Cincinnati.

United Iron Works, Kansas City, Mo.

Vitter Mfg. Co., Inc., Henry, Louisville.

York Mfg. Co., York, Pa.

INCORPORATORS. (Companies.)

Corporation Service Co., Wilmington, Del.
Delaware Reg. Trust Co., Wilmington.

INDUSTRIAL, AGRICULTURAL AND
COMMERCIAL OPPORTUNITIES.

City Advertising Dept., Jacksonville, Fla.
Birmingham, N. Y. Co., Birmingham, Ala.
Merchants & Manufacturers Assn., Louis-
ville, Ky.

Railroads.

Atlanta & West Point R. R., Atlanta.

Central of Georgia Co., Savannah, Ga.

Model Land Company of the Flagler Sys-
tem, St. Augustine, Fla.

Texas & Pacific Railway, Dallas, Texas.

INJECTORS.

Jenkins Bros., New York, N. Y.

Lunkenhimer Co., The, Cincinnati, O.

Randall Machinery Co., Cincinnati, O.

INSERTS. (For Concrete Walls, Cen-
tral.)

Concrete Steel Co., New York, N. Y.

INSTRUMENTS. (Electric Measuring.)

Weston Electrical Instr. Co., Newark, N. J.

INSULATING MATERIALS.

Continental Fibre Co., The, Newark, Del.

General Electric Co., Schenectady, N. Y.

Johns-Manville, Inc., H. W., New York.

INTER-COMMUNICATING SYSTEMS

(Automatic.)

Automatic Electric Co., Chicago, Ill.

INVESTMENT SECURITIES.

Bred, Elliott & Harrison, Cincinnati.

Caldwell & Co., Nashville, Tenn.

Caldwell & Kinney, Toledo, O.

Electric Bond & Share Co., New York.

Hanchett-Bond Co., The, Chicago, Ill.

Hoover & Co., Chicago, Ill.

Mercantile Trust & Deposit Co., Balti-

more, Md.

United Iron Works, Kansas City, Mo.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

Wright & Co., Toledo, O.

Wright & Co., Cincinnati, O.

</div

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

LIVESTOCK SPECIALISTS.

More Agricultural Service, New Orleans.

LOADING AND UNLOADING MCHY.

(Portside.)

Columbus Conveyor Co., Columbus, O.

Dow Co., Inc., The, Louisville, Ky.

Hans Mfg. Co., Geo., New York.

Jeffrey Mfg. Co., Columbus, O.

Portside Agents, Co., Passaic, N. J.

LOCKERS.

Steel.

Dexter Mfg. Co., Camden, N. J.

Edgar Mfg. Co., Inc., St. Louis, Mo.

McEwan Lumber Co., Norfolk, Va.

LOCOMOTIVES.

Electric.

Whitecomb Co., Geo. D., Rochelle, Ill.

Gasoline.

Industrial Equipment Co., Minster, O.

Whitecomb Co., Geo. D., Rochelle, Ill.

Industrial.

Baber, Henry H., Norfolk, Va.

Climax Mfg. Co., Corry, Pa.

Industrial Equipment Co., Minster, O.

Jeffrey Mfg. Co., Columbus, O.

McEwan Lng. & Mch. Co., St. Louis, Mo.

Jeffrey Mfg. Co., Columbus, O.

Miner.

Long-Bell Lumber Co., Kansas City, Mo.

McKee Lumber Co., Corinth, Miss.

Stanley Lumber Co., H. F., Jackson, Miss.

Wier Lumber Co., R. W., Houston, Tex.

MACHINERY.

(Special.)

Bethlehem Steel Co., Bethlehem, Pa.

Bissell Co., E. W., Brooklyn, N. Y.

Universal Machine Co., Baltimore, Md.

MACHINERY AND SUPPLIES.

(New and Second-hand.)

Beckerley & Trusler, Baltimore, Md.

Brooks Supply Co., Beaumont, Tex.

Carey Co., Thos. F., New York, N. Y.

Castile & Wilson, Pittsburgh, Pa.

Charleston Industrial Corp., Nitro, W. Va.

Clarkson & Sherry Co., Cleveland.

Coleman Shredder, Inc., Phila., Pa.

Davis, J. F., Chicago, Ill.

Dempster Eq., Knoxxville, Tenn.

Gregory Electric Co., Chicago, Ill.

Hadfield-Penfield Steel Co., Bucyrus, O.

Harris Bros. Co., Chicago, Ill.

Harrington & Sons Co., Hoboken, N. J.

Hollander Eq., New York, N. Y.

Industrial Plants Corp., New York, N. Y.

Kehoe, Robert P., New York, N. Y.

King, Philip T., New York, N. Y.

Klein & Co., Nathan, New York, N. Y.

Lehman, T., Birmingham, Ala.

Lindell & Jones, Louisville, Ky.

McMillan, A., Chicago, Ill.

Mallory Machinery Corp., Baltimore, Md.

Marine Metal & Supply Co., New York.

Mayer, F., Chicago, Ill.

Mitter's Machinery Co., Saginaw, Mich.

Motter's Sons, Geo. F., York, Pa.

Naftalin Ind. Corp., Jacksonville, Tenn.

O'Brien Mfg. Co., Phila., Pa.

Pfannmuller Eng. Co., Chicago, Ill.

Pipe & Contractors' Sup. Co., New York.

Prestiss & Co., Inc., Henry, New York.

Reynor & Son, Jos. T., St. Louis and

New York.

Sales Corp., The, Washington, D. C.

Seeger Machine Tool Co., Atlanta, Ga.

Seyfert's Sons Co., L. F., Phila., Pa.

South Side Fdy. & Mch. Wks., Charles-

ton, W. Va.

Tarr, Louis A., Inc., Baltimore, Md.

Thompson, Pratt, Baltimore, Md.

Toomey, Frank, Inc., Philadelphia, Pa.

Weiss, B. M., Philadelphia.

Willard, Boggs & Co., Newark, N. J.

Wilson & Culver Co., San Antonio, Tex.

Zelnicker Sup. Co., W. A., St. Louis.

MACHINE TOOLS.

Houston, Stanwood & Gamble Co., Cincinnati.

Niles-Bement-Pond Co., New York, N. Y.

Anderson & Son, J. T., St. Louis & New

York.

Seeger Machine Tool Co., Atlanta, Ga.

Wicks Machinery Co., Jersey City, N. J.

MAGNETS. (Lifting.)

Browning Co., Cleveland, Ohio.

Electric Controller & Mfg. Co., Cleveland.

MAGNETIC SEPARATORS.

Buchanan Co., Inc., C. G., New York.

Parson Co., J. W., Philadelphia, Pa.

MAIL CHUTES.

Cutter Mail Chute Co., Rochester, N. Y.

MAINTENANCE. (Building.)

Truscon Laboratories, The, Detroit, Mich.

MARBLE. (Artificial for Cafeterias, etc.)

Carthage Marble & White Lime Co.,

Carthage, Mo.

MARQUISE.

Probert Sheet Metal Co., Cincinnati.

METAL-CUTTING MACHINES.

Atkins & Co., Inc., E. C., Indianapolis, Ind.

Bacine Tool & Mch. Co., Racine, Wis.

METAL WORKING MACHINERY.

Bilco Co., E. W., Brooklyn, N. Y.

METERS. (Steam.)

American District Steam Co., North

Tonawanda, N. Y.

Electrical Measuring.

Weston Electrical Instr. Co., Newark, N. J.

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

MICROMETERS, CALIPERS, ETC.

Starrett Co., L. S., Athol, Mass.

MILL MACHINERY AND SUPPLIES.

Bailey-Lobby Co., Charleston, S. C.

Meyer Mfg. Co., Fred. J., Hamilton, O.

Roanoke Iron & Bridge Works, Roanoke, Va.

Sneed Architectural Iron Works, Louisville.

Stewart Iron Works Co., Inc., Cincinnati, Wilson Co., The, Greenville, S. C.

MILL WORK. (Lumber. All Kinds.)

Bacon & Sons, A. S., Savannah, Ga.

Conicle Sash, Door & Lumber Co., Cordele, Ga.

Morgan Millwork Co., Baltimore, Md.

MINING MACHINERY.

Jeffrey Mfg. Co., Columbus, O.

McLanahan-Stone Mich. Co., Hollidaysburg, Pa.

Traylor Engg. & Mfg. Co., Allentown, Pa.

MIXERS.

Concrete.

Amer. Cement Mch. Co., Inc., Keokuk, Ia.

Austin Machy. Corp., Chicago, Ill.

Bystone Mfg. Co., Cambridge Springs, Pa.

Chain Belt Co., Milwaukee, Wis.

Construction Machinery Co., Waterloo, Ia.

Jaeger Machine Co., The, Columbus, O.

Koch Bros. Co., Milwaukee, Wis.

Republic Iron Works, Tecumseh, Mich.

Service Equipment Co., Philadelphia.

Southern Steel Prod. Co., Richmond, Va.

Hot.

Koehring Co., Milwaukee, Wis.

MORTAR COLORS.

Chattanooga Paint Co., Chattanooga.

MOTORS. (Electric.)

Clark Jr. Electric Co., Jas., Louisville, Ky.

Electric Controller & Mfg. Co., Cleveland.

Ideal Electric & Mfg. Co., Mansfield, O.

Triumph Electric Co., Cincinnati, O.

Wagner Electric Corp., St. Louis, Mo.

Westinghouse El. & Mfg. Co., E. Pitts-

MOTOR TRUCKS.

General Motors Truck Co., Pontiac, Mich.

Packard Motor Car Co., Detroit, Mich.

MOTOR-TRUCK TIRES.

Kyle-Springfield Tire Co., New York.

MUSIC WIRE.

American Steel & Wire Co., Chicago, Ill.

NAILS.

Cut.

Wheeling Steel Prod. Co., Wheeling, W. Va.

WIRE ALL KINDS.

Pittsburgh Steel Co., Pittsburgh, Pa.

McCalla Co., Harold, Philadelphia, Pa.

NAILS AND SPIKES.

Youngtown Sheet & Tube Co., Young-

town, O.

NAPHTHAS. (Paint.)

Texhoma Oil & Refining Co., Wichita Falls, Tex.

NOZZLES. (Aerating, Sprinkler, etc.)

Buffalo Forge Co., Buffalo, N. Y.

NUTS. (Cold Punched.)

Oliver Iron & Steel Co., Pittsburgh, Pa.

OIL-BURNING SYSTEMS.

Bethlehem Shipbuilding Corp., Bethlehem.

OIL, FUEL AND GAS.

Empire Refineries, Inc., Tulsa, Okla.

Gulf Refining Co., Pittsburgh, Pa.

Robinson & Son Co., Wm. C., Balto., Md.

Texhoma Oil & Refining Co., Wichita Falls, Tex.

Warner Petroleum Co., St. Louis, Mo.

OIL-MILL MACHINERY.

Bauer Bros. Co., The, Springfield, Ohio.

Pitman Supply Co., Beaumont, Texas.

Caldwell & Co., E. B., Bradford, Pa.

OILS. (Lubricating, etc.)

Borg-Scriven Co., New York, N. Y.

Cook's Son, Inc., Adam, N. Y.

Empire Refineries, Inc., Tulsa, Okla.

Gulf Refining Co., Pittsburgh, Pa.

Robinson & Son Co., Wm. C., Balto., Md.

Sapulpa Refining Co., Tulsa, Okla.

Texas Co., The, New York, N. Y.

Texhoma Oil & Refining Co., Wichita Falls, Tex.

OIL-WELL MACHINERY.

Brooks Supply Co., Beaumont, Tex.

Cook, A. D., Lawrenceburg, Ind.

Keystone Tank & Boiler Wks., Butler, Pa.

OIRE-WASHING MACHINERY.

McLanahan-Stone Mch. Co., Hollidaysburg, Pa.

PHOSPHATE MACHINERY.

American Process Co., New York, N. Y.

Bailey-Lobby Co., Charleston, S. C.

Charlesberry Dock & Mch. Co., Charles-

ton, S. C.

McLanahan-Stone Mch. Co., Hollidays-

burg, Pa.

Steel.

Nat. Pressed Steel Co., Massillon, O.

Union Steel Co., Youngstown, O.

Westinghouse Co., St. Louis, Mo.

Witco Co., St. Louis, Mo.

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

PHOTO-ENGRAVERS.

Alpha Photo-Engraving Co., Baltimore.

PHOTOGRAPHING APPARATUS. (Letters, Legal Papers, etc.)

Photostat Corp., Rochester, N. Y.

PIG-IRON.

Alabama Co., The, Birmingham, Ala. Bethlehem Steel Co., Bethlehem, Pa. Brier Hill Steel Co., Youngstown, O. Hammond-Birdy Iron Co., Birmingham. Pittsburgh Steel Co., Pittsburgh, Pa. Republic Iron & Steel Co., Youngstown, O. Tenn. C. I. & R. R. Co., Birmingham.

FILE DRIVERS. (Locomotive.)

Bucyrus Co., South Milwaukee, Wis. National Hoisting Engine Co., Harrison, N. J.

PILING.

Cresoted.
American Cresoted Wks., New Orleans. American Cresoting Co., Bogalusa, La. Cresoted Materials Co., Inc., New Orleans. Empire & Steel Co., New York, N. Y. Pensacola Cresoting Co., Pensacola, Fla. Savannah Cresoting Co., The, The Port Wentworth, Savannah, Ga. Southern Cresoting Co., Ltd., Slidell, La.

Cypress.

Black River Cypress Co., Gables, S. C.

PILLOW BLOCKS.

Goldens' Fdy. & Mch. Co., Columbus, Ga. Medart's Sons Co., The, St. Louis, Mo. Wood's Sons Co., T. B., Chambersburg, Pa.

PIPE.

Grant Supply Co., Chas. J., Philadelphia. National Tube Co., Pittsburgh, Pa. Youngstown Sheet & Tube Co., Youngstown, O. Wheeling Steel Prod. Co., Wheeling, W. Va.

Cast Iron.

American C. I. Pipe Co., Birmingham. Central Foundry Co., The, New York. Glamorgan Pipe & Fdy. Co., Lynchburg, Va. Nat'l Cast Iron Pipe Co., Birmingham. U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J. Wood & Co., R. D., Philadelphia, Pa.

Coil.

Frick Co., Waynesboro, Pa. York Mfg. Co., York, Pa.

Culvert.

Armcro Culvert & Flume Mfrs. Assn., Chicago, Ill. Canton Culvert & Slio Co., Canton, O.

Dredge.

Lancaster Iron Works, Inc., Lancaster, Pa. Iron and Steel. Ryerson & Son, Jos. T., St. Louis and New York.

Riveted.

Ahrendroth & Root Mfg. Co., Newburgh, N. Y. Petroleum Iron Works, Co., Sharon, Pa.

Second-Hand.

Brooks Supply Co., Beaumont, Tex. Central Pipe & Supply Co., Charleston, W. Va. Grant Supply Co., Chas. J., Philadelphia. Griffith, Frank, Philadelphia, Pa. Marine Metal & Supply Co., New York. Pipe & Contractors' Sup. Co., New York.

Spiral Riveted.

Ahrendroth & Root Mfg. Co., Newburgh, N. Y. American Spiral Pipe Wks., Chicago, Ill.

Steel.

National Tube Co., Pittsburgh, Pa. Republic Iron & Steel Co., Youngstown, O. Wheeling Steel Prod. Co., Wheeling, W. Va. Youngstown Sheet & Tube Co., Youngstown, O.

Wood.

Michigan Pipe Co., Bay City, Mich. Standard Wood Pipe Co., Williamsport, Pa. Wyckoff & Son Co., A., Elmira, N. Y.

Wrought Iron.

Youngstown Sheet & Tube Co., Youngstown, O.

PIPE BENDS AND HEADERS.

Grinnell Co., Providence, R. I.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham. Crane Co., Chicago, Ill. Griffith, Frank, Philadelphia, Pa. Grinnell Co., Providence, R. I. Koenig & Sons Co., Henry A., Balto., Md. Lurkinheimer Co., The, Cincinnati, O. National C. I. Pipe Co., Birmingham.

PIPE UNIONS AND JOINTS.

Dart Mfg. Co., E. M., Providence, R. I.

PIPING CONTRACTORS.

Crawford & Slaten, Atlanta, Ga.

PITCH.

Barrett Co., New York, N. Y.

PLATES.

Steel.
Allegheny Steel Co., Pittsburgh, Pa. Bethlehem Shipbuilding Corp., Bethlehem. Bethlehem Steel Co., Bethlehem, Pa.

Blaw-Knox Co., Pittsburgh, Pa.

Cincinnati Iron & Steel Co., Cincinnati.

Midwest Steel & Steel Co., Chicago.

Republic Iron & Steel Co., Youngstown, O.

Ritter-Conley Co., Pittsburgh, Pa.

Everson & Son, Jos. T., St. Louis and New York.

Wood, Iron & Steel Co., Alan, Phila.

STEEL TUNNEL LINER.

Truscon Steel Co., Youngstown, Ohio.

PLAYGROUND APPARATUS.

Medart Mfg. Co., Fred, St. Louis, Mo.

PNEUMATIC TOOLS.

Independent Pneumatic Tool Co., Chicago.

POLES.

Cresoted.
American Cresoted Wks., New Orleans. American Cresoting Co., Bogalusa, La.

Cresoted Materials Co., Inc., New Orleans.

Pensacola Cresoting Co., Pensacola, Fla.

Savannah Cresoting Co., The, The Port

Wentworth, Savannah, Ga.

Southern Cresoting Co., Ltd., Slidell, La.

Cypress.
Black River Cypress Co., Gables, S. C.

TUBULAR STEEL.

National Tube Co., Pittsburgh, Pa.

POLISHING MCHY. (Wheels, Blocks.)

Carborundum Co., Niagara Falls, N. Y.

PORTABLE HOUSES.

Metal.
Maryland Metal Building Co., Baltimore.

Wooden.
Minter Homes Corp., Huntington, W. Va.

POSTS. (Cast Iron.) (Hallway and Highway.)

U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J.

POWDER. (Cleaning.)

India Alkali Works, Boston, Mass.

POWER PIPING.

Grinnell Co., Providence, R. I.

POWER TRANSMISSION MCHY.

American Pulley Co., Philadelphia, Pa. Bailey-Levy Co., Charleston, S. C.

Caldwell & Son Co., H. W., Chicago, Ill. Caldwell Co., Inc., W. E., Louisville, Ky.

Cook & Morris Co., Philadelphia, Pa.

Davis Foundry & Mch. Wks., Rome, Ga.

Goldens' Fdy. & Mch. Co., Columbus, Ga.

Jones & Laughlin Steel Co., Pittsburgh.

Link-Belt Co., Philadelphia, Pa.

Medart Co., The, St. Louis, Mo.

Morse Chain Co., Ithaca, N. Y.

St. Louis Iron Works, Mch., Ga.

Smith-Courtney Co., Richmond, Va.

Weller Mfg. Co., Chicago, Ill.

Wood's Sons Co., T. B., Chambersburg, Pa.

PRESERVATIVE. (Wood.)

Barrett Co., The, New York, N. Y.

Protzel Corp., New York, N. Y.

PRESSED STEEL PARTS.

Sharon Pressed Steel Co., Sharon, Pa.

PRESSES.

Baling, Cottontail Oil, Hydraulic and Power.

Bauer Bros. Co., The, Springfield, O.

Cardwell Machine Co., Richmond, Va.

Continental Gin Co., Birmingham, Ala.

Dunning & Boscorth Press Co., Syracuse.

Ripley Fdy. & Mach. Co., Ripley, O.

Metal Stamping.

Bliss Co., E. W., Brooklyn, N. Y.

SEWER PIPE & TILE.

Taplin-Rice-Clerk Co., Akron, O.

PRINTERS. (Book, Catalog, Job, etc.)

Cassons, May & Co., Inc., Richmond, Va.

Fleet-McSinger Co., Baltimore, Md.

Larew Printing Company, Knoxville, Tenn.

Smith Co., The Oscar T., Baltimore, Md.

Young & Selden Co., Baltimore, Md.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE BENDS AND HEADERS.

Grinnell Co., Providence, R. I.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE BENDS AND HEADERS.

Grinnell Co., Providence, R. I.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

National C. I. Pipe Co., Birmingham.

PIPE FITTINGS.

American C. I. Pipe Co., Birmingham.

Crane Co., Chicago, Ill.

Griffith, Frank, Philadelphia, Pa.

Grinnell Co., Providence, R. I.

Koenig & Sons Co., Henry A., Balto., Md.

Lurkinheimer Co., The, Cincinnati, O.

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

New York, N. Y.
Burg. Ind.
Co., Shippers
New York, N. Y.
Memphis, Tenn.
Beaver Falls, Pa.
New York, N. Y.
Medina, N. Y.
Marion, O.
Philadelphia, Pa.
Arch. Corp., N. Y.
Phila., Pa.
Co., Minneapolis
Iowa, Fort Wayne
Co., N. Y.
A. S. A. N. Y.
Richmond, Va.
New York, N. Y.
Co., Nitro, W. Va.
Co., Syracuse
Co., N. Y.
York, N. Y.
Cincinnati, Ohio, Corp., N. Y.
Co., Shippers
Co., Syracuse
Cincinnati, O.
Machine Co.
Co., Minneapolis
Corp., N. Y.
Chemical, Pa.
Co., Minneapolis
Buffalo, N. Y.
Ind., Inc., Amer.
York, N. Y.
Cincinnati, O.
Mch., Co., Oll
E. Easton, Pa.
O.
New York, N. Y.
Continental, O.
Louisville, Ky.
Richmond, Va.
Corp., N. Y.
Co., Shippers
Machine Co.,
O.
Allentown, Pa.
phi, Tenn., O.
Milwaukee, O.
Port, N. Y.
Janesville, Mich.
Easton, Pa.
O., Ill.
Corp., N. Y.
alls, N. Y.
cincinnati, O.
Anistee, Mich.
Corp., N. Y.
MCHY.
N. Y.
Covington, Va.
IRON AND
Co.,
ville, Ky.
ore, Md.
Louis, Ma.
Hamilton, O.
S. C.
ustrial, Agri-
opportunity
Atlanta, Ga.
Savannah,
Flagler Sys.
Las, Texas
at, Gondola
ouston, Tex.
delphia, Pa.
arion, O.
AND SUP-
hand)
Hamilton, O.
Va.
S. C.
Louis, Ma.
Birming-
more, Md.
N. Y.
Cincinnati, O.
Barre, Pa.
ago, Ill.
Md.

General Electric Co., Schenectady, N. Y.
Georgia Car & Locom. Co., Atlanta, Ga.
Harris Bros. Co., Chicago, Ill.
Houston Railway Car Co., Houston, Tex.
Hyman-Michael Co., Chicago, Ill.
Kilby Frog & Switch Co., Birmingham.
Niles-Bement-Pond Co., New York, N. Y.
Pottstown Steel Co., Douglassville, Pa.
Robinson & Orr, Pittsburgh, Pa.
Southern Iron & Steel Co., Houston, Tex.
Southern Iron & Equip. Co., Atlanta, Ga.
Turner Co., Chattanooga, Tenn.
Wait Frog Co., Cincinnati, O.
West Virginia Rail Co., Huntington, W. Va.
Wilson & Co., E. H., Philadelphia, Pa.
Wilson Machinery Co., St. Louis, Mo.
Wood, P. W., New Orleans, La.
Zehnlecker Supply Co., W. A., St. Louis.

RAILROAD FROGS AND SWITCHES.
Amer. Frog & Switch Co., Hamilton, O.
Bethlehem Steel Co., Bethlehem, Pa.
Bridwell Co., Inc., W. C., Baltimore, Md.
Cincinnati Frog & Switch Co., Cincinnati.
Frank, M. K., Pittsburgh, Pa.
Kilby Frog & Switch Co., Birmingham.
National Steel Rail Co., St. Louis, Mo.
Robinson & Orr, Pittsburgh, Pa.
Wood, P. W., New Orleans, La.
Weir Frog Co., Cincinnati, O.

RAILS. (Steel)
Baber, Henry H., Norfolk, Va.
Benjamin Eqt. Co., Harry, St. Louis, Mo.
Bethlehem Steel Co., Bethlehem, Pa.
Bridwell Co., Inc., W. C., Baltimore, Md.
Carter, Thos. F., New York, N. Y.
Cason & Son, Louis, Wilkes-Barre, Pa.
Foster Co., H. M., Baltimore, Md.
Frank, M. K., Pittsburgh, Pa.
Hyman-Michael Co., Chicago, Ill.
Levy & Bro., Jacob, Louisville, Ky.
Lindner, S. W., Chicago, Ill.
Mid-Continent Eqt. & Mch., Co., St. Louis, Mo.

Mills Contractors Eqt. Co., Chattanooga, Tenn.
Nashville Ind. Corp., Jacksonville, Tenn.
National Steel Rail Co., St. Louis, Mo.
Pottstown Steel Co., Douglassville, Pa.
Robinson & Orr, Pittsburgh, Pa.
Sherman, E. C., New York, N. Y.
Singer Iron & Steel Co., Houston, Tex.
Southern Iron & Equip. Co., Atlanta, Ga.
Tenn. C. I. & R. R. Co., Birmingham.
United Railway Supply Co., Birmingham.
West Virginia Rail Co., Huntington, W. Va.
Zehnlecker Supply Co., W. A., St. Louis.

RAILWAYS. (Industrial)
Bridwell Co., Inc., W. C., Baltimore, Md.
Cincinnati Frog & Switch Co., Cincinnati.

REFLECTORS. (Lamp)
Fink, Inc., L. P., New York, N. Y.
Hubbell Inc., Harvey, Bridgeport, Conn.

REFRIGERATING MCHY. AND APPARATUS.
Arctic Ice Machine Co., Canton, O.
Baker Ice Machine Co., Omaha, Nebr.
Continents Machine Co., Chicago, Ill.
Eaton, E. C., New York, N. Y.
southern Ice Machine Co., Charlotte, N.C.
Triumph Ice Machine Co., Cincinnati, O.
Vitter Mfg. Co., Milwaukee, Wis.
Vogt Mch. Co., Inc., Henry, Louisville.
York Mfg. Co., York, Pa.

REINFORCING WIRE FABRIC. (Concrete Road.)
Concrete Steel Co., New York, N. Y.
National Steel Fabric Co., Pittsburgh.

RINGS (Piston.)
Universal Machine Co., Baltimore, Md.

RIVER AND HARBOR IMPROVEMENTS. (Dredging, Docks, Wharves, etc.)
Atlantic, Gulf & Pacific Co., New York.
Foundation Co., The, New York, N. Y.

REIVETS.
Hammond Byrd Iron Co., Birmingham.
Hubbell Inc., Harvey, Bridgeport, Conn.
Waterbury Mfg. Co., Waterbury, Conn.

ROAD AND STREET MACHINERY.
Barber Asphalt Co., Phila., Pa.
Buffalo-Springfield Roller Co., Springfield, O.
Syracuse Machine Company, The, Ravenna, O.
Chattanooga Road Machinery Co., Chattanooga, Tenn.

Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.
Galion Iron Works & Mfg. Co., Galion, O.
Good Roads Mchry. Co., Atlanta, Ga.
Hampton Roads Equip. Co., Norfolk, Va.
J. T. Trace Co., Cleveland, O.
Keweenaw Drywall Co., Beaver Falls, Pa.
Macon Concrete Roller Co., Macon, Ga.
United Iron Works, Kansas City, Mo.
Universal Road Mchv. Co., Kingston, N. Y.
Wilson Tank & Culvert Co., San Antonio, Tex.

ROAD AND STREET MATERIAL.
Asphalt Association, New York, N. Y.
Barber Asphalt Co., Phila., Pa.
Barrett Co., New York, N. Y.
Birmingham Slag Co., Birmingham, Ala.
Borley & Co., W. W., Roanoke, Va.
Good Roads Mchry. Co., Atlanta, Ga.
Kentucky Rock Asphalt Co., Louisville.
Petersburg Sand & Gravel Corp., Peters-
burg, Va.

ROAD AND STREET MATERIA.
Asphalt Association, New York, N. Y.
Barber Asphalt Co., Phila., Pa.
Barrett Co., New York, N. Y.
Birmingham Slag Co., Birmingham, Ala.
Borley & Co., W. W., Roanoke, Va.
Good Roads Mchry. Co., Atlanta, Ga.
Kentucky Rock Asphalt Co., Louisville.
Petersburg Sand & Gravel Corp., Peters-
burg, Va.

ROAD GRADERS AND SCRAPERS.
Barber Asphalt Co., Phila., Pa.
Barrett Co., New York, N. Y.
Texas Co., The, New York, N. Y.

ROAD FINISHING MACHINES.
Heltzel Steel Form & Iron Co., Warren, Ohio.

ROAD GRADERS AND SCRAPERS.
Austin, W. C., Baltimore, Md.
Austin-Western Road Mch. Co., Chicago.
Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.
Galion Iron Works & Mfg. Co., Galion, O.
Good Roads Mchry. Co., Atlanta, Ga.

ROAD OILERS.
Austin-Western Road Mch. Co., Chicago.

ROAD OILS AND PRESERVATIVES.
Barber Asphalt Co., Phila., Pa.
Barrett Co., New York, N. Y.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.
Good Roads Mchry. Co., Atlanta, Ga.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

ROAD OILS AND PRESERVATIVES.
Austin-Western Road Mch. Co., Chicago.
Galion Iron Works & Mfg. Co., Galion, O.

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

ASBESTOS PROTECTED. Robertson Co., H. H., Pittsburgh, Pa.

Sheet Steel Piling. Lindheimer, S. W., Chicago, Ill.

Shelving. (Steel.) (Vault, Store, etc.) Dexter Metal Mfg. Co., Camden, N. J. Lupton's Sons Co., David, Phila., Pa. Medart Mfg. Co., Fred, St. Louis, Mo.

Shingles. Cedar. Kirkpatrick Lumber & Timber Co., Birmingham, Ala.

Metal. Berger Mfg. Co., The, Canton, O. Canton Art Metal Co., The, Canton, O. Cortright Metal Roofing Co., Phila., Pa. Gordon Metal Co., Richmond, Va. Southern Sheet & Tin Plate Co., Ashland, Ky.

Shingle Stains. Cabot, Inc., Samuel, Boston, Mass.

SHIPBUILDING. Sun Shipbuilding Co., Chester, Pa.

Shovels. (Steam, Gas, Electric and Power.) Browning Co., Cleveland, Ohio. Sucrus Co., South Milwaukee, Wis. Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa. Marion Steam Shovel Co., Marion, O. Northwest Eng. Co., Chicago, Ill. Osgood Co., The, Marion, O.

SHUTTERS. Steel. Swedish Venetian Blind Co., New York.

Steel and Wood Bi-folding. Kinner Mfg. Co., Columbus, O.

SIGNS. Electric. Frink, Inc., I. F., New York, N. Y.

SILOS. Woolford Wood Tank Mfg. Co., G., Phila.

SKYLIGHTS. Edwards Mfg. Co., The, Cincinnati, O. Hires-Turner Glass Co., Washington. Probert Sheet Metal Co., Cincinnati. Robertson Co., H. H., Pittsburgh, Pa.

Puttyless. Drouce Co., G., Bridgeport, Conn. Schoedinger, F. O., Columbus, O.

SLAG. Concrete. Birmingham Slag Co., Birmingham, Ala. Tennessee Copper Co., Copperhill, Tenn.

Furnace. Birmingham Slag Co., Birmingham, Ala. Tennessee Copper Co., Copperhill, Tenn.

SLATE PRODUCTS. Structural Slate Co., Pen Argyl, Pa. Vendor Slate Co., Inc., Easton, Pa.

SLUICE GATES AND APPLIANCES. Caldwell-Wilcox Co., Newburgh, N. Y.

SMOKESTACKS. (Iron and Steel.) Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Chicago Bridge & Iron Works, Chicago. Downstown Iron Works, Downstown, Pa. Heitzel Steel Form & Iron Co., Warren, Ohio. Lancaster Iron Works, Co., Lancaster, Pa. Lombard Iron Wks. & Sup. Co., Augusta. Pittsburgh-Des Moines St. Co., Pittsburgh. Schenck's Iron Works, Macon, Ga. Sharpless Bros. Wks. Co., Sharpless, Pa. U. S. Cast Iron Pipe & Fdy. Co., Burlington, N. J. Virginia Bridge & Iron Co., Roanoke, Va. Walsh & Weidner Boiler Co., Chattanooga. Youngstown Boiler & Tank Co., Youngstown, O.

SODA. (Bicarbonate.) Church & Dwight Co., New York, N. Y.

SPIKES. Railroad, Ship. Bethlehem Steel Co., Bethlehem, Pa. Republic Iron & Steel Co., Youngstown, O.

Track. Atlanta Bolt & Steel Prod. Co., Atlanta.

SPRINKLER TANK. (Steel.) Chicago Bridge & Iron Works, Chicago.

SPRINKLERS. Automatic Fire. Beverley Heating Co., B. C., Richmond, Va. Crawford & Slaten, Atlanta, Ga.

Street. Austin Mfg. Co., Chicago, Ill.

SPRINGS. (Mch., Rwy., Spiral, Steel.) Raymond Mfg. Co., Ltd., Corry, Pa.

STACKS. (Radial Brick.) Custodis Chimney Constr. Co., Alphonse, New York, N. Y.

STAINS. (Shingle, Woodwork, etc.) Cabot, Inc., Samuel, Boston, Mass.

STAIR TREADS. (Non-slipping.) Concrete Steel Co., New York, N. Y.

STAMPS. (Brass, Rubber.) Dorman Co., J. F. W., Baltimore, Md.

STANDPIPES. Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Chicago Bridge & Iron Works, Chicago. Harley Boiler Works, Montgomery, Ala. Pittsburgh-Des Moines St. Co., Pittsburgh. Walsh & Weidner Boiler Co., Chattanooga.

STARTING SWITCHES. Electric Controller & Mfg. Co., Cleveland.

STATIONERS. (Envelopes, Letter and Billheads, etc.) Cussons, Max. & Co., Inc., Richmond, Va. Smith Co., The Oscar T., Baltimore, Md. Young & Selden Co., Baltimore, Md.

STEAMSHIP LINES. (Coastwise.) Merchants & Miners Transportation Co., Baltimore, Md.

STEAM METERS. American District Steam Co., North Tonawanda, N. Y.

STEAM SHOVELS. Browning Co., Cleveland, Ohio. Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.

Keystone Driller Co., Beaver Falls, Pa. Osgood Co., The, Marion, O. Sherwood, E. C., New York, N. Y.

STEAM SPECIALTIES. American District Steam Co., North Tonawanda, N. Y. Crane Co., Chicago, Ill. Jenkins Bros., New York, N. Y. Lunkenheimer Co., The, Cincinnati, O. Powell Co., The William, Cincinnati, O.

STEAM TRAPS. Jenkins Bros., New York, N. Y. Johns-Manville Inc., H. W., New York.

STEEL. Bethlehem Steel Co., Bethlehem, Pa. Carnegie Steel Co., Pittsburgh, Pa. Dietrich Bros., Baltimore, Md. Falcon St. Co., The, Toledo, O. Jones & Laughlin Steel Co., Pittsburgh. Lukens Steel Co., Coatesville, Pa. Midvale Steel & Ordnance Co., Phila., Pa. Oliver Iron & Steel Co., Pittsburgh, Pa. Pittsburgh Steel Co., Pittsburgh, Pa. Ryerson & Son, Jos. T., St. Louis and New York.

Taylor & R. R. Co., Birmingham. Union Drawn Steel Co., Beaver Falls, Pa. United Railway Supply Co., Birmingham. Wheeling Steel Prod. Co., Wheeling, W. Va.

Wood, Iron & Steel Co., Alan, Phila., Pa. Youngstown Sheet & Tube Co., The, Youngstown, O.

Electric Furnaces. Bethlehem Steel Co., Bethlehem, Pa.

Strip. Nat. Pressed Steel Co., Massillon, O.

Tool. (High Speed.) Bethlehem Steel Co., Bethlehem, Pa. Gordon Metal Co., Richmond, Va. Midvale Steel & Ordnance Co., Phila., Pa. Ryerson & Son, Jos. T., St. Louis and New York.

Union Drawn Steel Co., Beaver Falls, Pa.

VANADIUM. Union Drawn Steel Co., Beaver Falls, Pa.

STEEL BUILDINGS. Designers and Builders. American Bridge Co., New York, N. Y. Belmont Iron Works, Philadelphia, Pa. Bethlehem Steel Co., Bethlehem, Pa. Carnegie Steel Co., Pittsburgh, Pa. Champion Bridge Co., Wilmington, O. Chesapeake Iron Works, Baltimore, Md. Grainger & Co., Inc., Franklin, Ky. Ladd & Bowditch Co., Birmingham, Ala. Inter'l Steel & Iron Co., Evansville, Ind. McClinic-Marshall Co., Pittsburgh, Pa. Patterson Steel Co., Tulsa, Okla. Phoenix Iron Co., Philadelphia, Pa. Pittsburgh-Des Moines St. Co., Pittsburgh. Richmond Struct. Steel Co., Richmond, Va. Scaife & Sons Co., Wm. B., Pittsburgh.

Snead Architectural Iron Wks., Louisville, Ky. Virginia Bridge & Iron Co., Roanoke, Va. Walsh & Weidner Boiler Co., Chattanooga.

Ready-made Sectional. Maryland Metal Building Co., Baltimore. Widmer Engineering Co., St. Louis, Mo.

STEEL CASTINGS. Crucible Steel Casting Co., Lansdowne, Pa. Midvale Steel & Ordnance Co., Phila.

STEEL LUMBER. Nat. Pressed Steel Co., Massillon, O. Truscon Steel Co., Youngstown.

STEEL PLATE WORK. Blaw-Knox Co., Pittsburgh, Pa. Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Chicago Bridge & Iron Works, Chicago. Ironton Boiler Works, Ironton, Ohio. Lancaster Iron Works, Co., Lancaster, Pa. Lookout Boiler & Mfg. Co., Chattanooga. Lukens Steel Co., Coatesville, Pa. Petroleum Iron Wks. Co., Sharon, Pa. Ritter-Conley Co., Pittsburgh, Pa. Southern Metal Co., Lake Charles, La. Sharpsville Boiler Wks. Co., Sharpsville, Pa. Treadwell Const. Co., Midland, Pa. Walsh & Weidner Boiler Co., Chattanooga. Youngstown Boiler & Tank Co., Youngstown, O.

STEEL SHEET PILING. Jones & Laughlin Steel Co., Pittsburgh. Zelinsky Supply Co., Walter A., St. Louis.

STENCILS. Dorman Co., J. F. W., Baltimore, Md.

STENCIL-CUTTING MACHINES. Regnas & Co., J. E., Atlanta, Ga.

STILLS. Petroleum Iron Wks. Co., Sharon, Pa.

STOCK CERTIFICATES, BONDS AND SEALS. Dorman Co., J. F. W., Baltimore, Md.

STOKERS. Hand. Vogt Bros. Mfg. Co., Louisville, Ky.

Mechanical. Babcock & Wilcox Co., New York, N. Y. McClave-Brooks Co., Scranton, Pa. Westinghouse El. & Mfg. Co., E. Pitts.

STONE. (Building.) Carthage Marble & White Lime Co., Carthage, Mo. Williams Brick Co., F. Graham, Atlanta.

STONE AND GRAVEL PLANT EQUIP. Weller Mfg. Co., Chicago, Ill.

STORE FRONTS. Complete. Inter'l Steel & Iron Co., Evansville, Ind.

Glass. Hires-Turner Glass Co., Washington, D.C.

Metal. Zouri Drawn Metal Co., Chicago Hts, Ill.

STRAINERS. (Oil, Water and Gas Well.) McEvoy & Co., J. H., Houston, Texas.

STREET SWEEPERS. Austin Mfg. Co., Chicago, Ill.

STRIPS. (Steel.) Nat. Pressed Steel Co., Massillon, O.

STRUCTURAL STEEL AND IRON. American Bridge Co., New York, N. Y. Belmont Iron Works, Philadelphia, Pa. Bethlehem Steel Co., Bethlehem, Pa. Carnegie Steel Co., Pittsburgh, Pa. Champion Bridge Co., Wilmington, O. Chesapeake Iron Works, Baltimore, Md. Cincinnati Iron & Steel Co., Cincinnati. Converse Bridge & Steel Co., Chattanooga. Dietrich Bros., Baltimore, Md. Grainger & Co., Inc., Louisville, Ky. Ingalls Iron Works Co., Birmingham, Ala. Jones & Laughlin Steel Co., Franklin, Ind. Ironton Boiler Works, Ironton, Ohio. Jones & Laughlin Steel Co., Pittsburgh, Pa. McClinic-Marshall Co., Pittsburgh, Pa. Midvale Steel & Ordnance Co., Phila., Pa. Nat. Pressed Steel Co., Massillon, O. Patterson Steel Co., Tulsa, Okla. Phoenix Iron Co., Philadelphia, Pa. Pittsburgh-Des Moines St. Co., Pittsburgh.

Storage, Oil, etc. Caldwell Co., Inc., W. E., Louisville, Ky. Continental Pipe Mfg. Co., Seattle, Wash. Davis & Son, G. M., Palatka, Fla. Hauser-Stander Tank Co., Cincinnati, O. Vining-Stander Tank Co., Cincinnati, O. Virginia Mch. & Well Co., Richmond. Walford Wood Tank Mfg. Co., G. Pitts.

Seamless Steel. National Tube Co., Pittsburgh, Pa.

Seamless Steel. National Tube Co., Pittsburgh, Pa.

Storage, Oil, etc. Dowlington Iron Wks., Dowlington, Pa. Keystone Tank & Boiler Wks., Butler, Pa. Nashville Ind. Corp., Jacksonville, Tenn. Petroleum Iron Works Co., Sharon, Pa. Sharpville Boiler Wks. Co., Sharpville, Pa. Smith Gas Engr. Co., Dayton, O. Southern Metal Co., Lake Charles, La. Treadwell Const. Co., Midland, Pa. Virginia Bridge & Iron Co., Roanoke, Va. Walsh & Weidner Boiler Co., Chattanooga. Westinghouse Traction Brake Co., Wimberding, Pa. Youngstown Boiler & Tank Co., Youngstown, O.

Pickling. Hauser-Stander Tank Co., Cincinnati, O.

Seamless Steel. National Tube Co., Pittsburgh, Pa.

Storage, Oil, etc. Dowlington Iron Wks., Dowlington, Pa. Keystone Tank & Boiler Wks., Butler, Pa. Nashville Ind. Corp., Jacksonville, Tenn. Petroleum Iron Works Co., Sharon, Pa. Sharpville Boiler Wks. Co., Sharpville, Pa.

Storage, Oil, etc. Southern Metal Co., Lake Charles, La. Walford Wood Tank Mfg. Co., Ft. Wayne, Ind. Youngstown Boiler & Tank Co., Youngstown, O.

Wood. Caldwell Co., Inc., W. E., Louisville, Ky. Continental Pipe Mfg. Co., Seattle, Wash. Davis & Son, G. M., Palatka, Fla. Hauser-Stander Tank Co., Cincinnati, O. Vining-Stander Tank Co., Cincinnati, O. Virginia Mch. & Well Co., Richmond. Walford Wood Tank Mfg. Co., G. Pitts.

In writing advertisers please mention Manufacturers Record. Whenever you need any product not advertised, please tell us. We will find it for you.

TANK CARS.

Liquids Despatch Line, Chicago, Ill.

TAPEs. (Measuring.)

Starrett Co., L. S., Athol, Mass.

TELEPHONE SERVICE.

American Telephone & Telegraph Co.

TELEPHONE SYSTEMS.

(Automatic Interior and Local.)

Automatic Electric Co., Chicago, Ill.

TERRA-COTTA. (Ornamental.)

Atlanta Terra-Cotta Co., Atlanta, Ga.

THRESHERS.

Cardwell Machine Co., Richmond, Va.

TILE.

Drain.

Chattanooga Sewer Pipe Works, Chattanooga, Tenn.

Kingsport Brick Corp., Kingsport, Tenn.

Oconee Br. & Tile Co., Milledgeville, Ga.

West Va. Fire Clay Mfg. Co., Pittsburgh.

Floor, Wall, Mantel, Etc.

Amer. Enam. Brick & Tile Co., N. Y.

Hood Brick Co., B. Mifflin, Atlanta, Ga.

Oconee Br. & Tile Co., Milledgeville, Ga.

Southern Mosaic Tile Co., Atlanta, Ga.

Segment Blocks.

Chattanooga Sewer Pipe Wks., Chattanooga, Tenn.

Structural.

Kingsport Brick Corp., Kingsport, Tenn.

Oconee Br. & Tile Co., Milledgeville, Ga.

TILE CEMENT.

Amer. Cement Tile Mfg. Co., Pittsburgh.

TILE SLABS.

Amer. Cement Tile Mfg. Co., Pittsburgh.

Ludowici-Celadon Co., Chicago, Ill.

TIMBERS.

Crested.

American Crested Wks., New Orleans.

TIME RECORDERS.

Chicago Watchman's Clock Wks., Chicago.

Eco Clock Co., Boston, Mass.

Newman Clock Co., New York, N. Y.

TIN AND TERNE PLATES.

Amer. Sheet & Tin Plate Co., Pittsburgh.

Bethlehem Steel Co., Bethlehem, Pa.

Taylor Co., N. & G., Phila., Pa.

Wheeling Steel Prod. Co., Wheeling, W. Va.

TIN PLATE POLISHING MACHINERY.

Anderson Fdry. & Mch. Co., Anderson, Ind.

TIRES.

Motor Truck.

Kelly-Springfield Tire Co., New York.

TOBACCO MACHINERY.

Cardwell Machine Co., Richmond, Va.

Ripley Foundry & Mach. Co., Ripley, O.

TOOLS.

Electric.

Clark Jr. Electric Co., Jas., Louisville, Ky.

Independent Pneumatic Tool Co., Chicago.

Machinists.

Pratt & Whitney Co., New York.

Western Tool & Mfg. Co., Springfield, O.

Mechanical.

Starrett Co., L. S., Athol, Mass.

Pneumatic.

Independent Pneumatic Tool Co., Chicago.

Ingersoll-Band Co., New York, N. Y.

TOOLHOLDERS.

Western Tool & Mfg. Co., Springfield, O.

TOWERS.

Electric Transmission.

American Bridge Co., New York, N. Y.

Blaw-Knox Co., Pittsburgh, Pa.

Ritter-Conley Co., Pittsburgh, Pa.

Radio.

Ritter-Conley Co., Pittsburgh, Pa.

Steel and Wood.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newnan, Ga.

Pittsburgh-Des Moines St. Co., Pittsburgh.

Walsh & Welder Boiler Co., Chattanooga.

TRACK SPIKES.

Atlanta Bolt & Steel Prod. Co., Atlanta.

TRACTORS.

Gasoline.

J. T. Tractor Co., Cleveland, O.

Industrial.

J. T. Tractor Co., Cleveland, O.

TRAILERS. (Industrial.)

Electric Wheel Co., Quincy, Ill.

Sharon Pressed Steel Co., Sharon, Pa.

TRAMWAY.

Overhead.

Richards-Wilcox Mfg. Co., St. Louis, Mo.

Wire Rope.

American Steel & Wire Co., Chicago.

Broderick & Bascom, Inc., St. Louis.

Caldwell & Son Co., H. W., Chicago, Ill.

Leschen & Sons Rope Co., A., St. Louis.

TRANSFORMERS.

Crocker-Wheeler Co., Ampere, N. J.

General Electric Co., Schenectady, N. Y.

Westinghouse El. & Mfg. Co., E. Pitts.

TRANSITION BEARINGS AND HANGERS.

Standard Pressed Steel Co., Jenkintown, Pa.

Wood's Sons Co., T. B., Chambersburg, Pa.

TRENCH MACHINERY.

Austin Mchry. Corp., Chicago, Ill.

Buckeye Traction Ditcher Co., Findlay, O.

Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.

TRIM. (Metal.)

Dahlstrom Metallic Door Co., James-

town, N. Y.

TROLLEYS. (Overhead Tramway.)

New Jersey Fdry. & Mach. Co., New York.

Reading Chain & Block Corp., Reading, Pa.

TRUCKS.

Drykin.

Moore Dry Kiln Co., Jacksonville, Fla.

Industrial.

Sharon Pressed Steel Co., Sharon, Pa.

Motor.

General Motors Truck Co., Pontiac, Mich.

Packard Motor Car Co., Detroit, Mich.

Platform, Freight, Mill, Factory, Etc.

Edwards Mfg. Co., The, Cincinnati, O.

TRUST COMPANIES.

Maryland Trust Co., Baltimore, Md.

TUBE WELL STRAINERS.

Cook, A. D., Lawrenceburg, Ind.

TUBING.

Brass and Copper.

Chase Metal Works, Waterbury, Conn.

Mueler Metals Co., Port Huron, Mich.

Metal.

Boller Corp. of America, Pittsburgh.

Goodyear Tire & Rubber Co., Akron, O.

Wheeling Steel Prod. Co., Wheeling, W. Va.

Seamless Steel.

National Tube Co., Pittsburgh, Pa.

TURBINES.

Hydraulic.

Davis Foundry & Mch. Wks., Rome, Ga.

Leffel & Co., James, Springfield, O.

Smith, C. S., Morgan, York, Pa.

Steam.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

De Laval Steam Turbine Co., Trenton, N. J.

General Electric Co., Schenectady, N. Y.

Westinghouse El. & Mfg. Co., E. Pitts.

TURNTABLES.

American Bridge Co., New York, N. Y.

Virginia Bridge & Iron Co., Roanoke, Va.

Automatic. (Portable for Trucks.)

Champion Engr. Co., The, Kenton, O.

TWINE.

Plymouth Cordage Co., North Plymouth, Mass.

Whitlock Cordage Co., New York, N. Y.

UNIONS.

Dan Mfg. Co., E. M., Providence, R. I.

UNLOADERS.

Burch Flow Works Co., The, Crestline, O.

Car.

Heitzel Steel Form & Iron Co., Warren, Ohio.

VALVES.

Bethlehem Shipbuilding Corp., Bethlehem, Pa.

Bourbon Copper & Brass Works Co., Cincinnati, O.

Crane Co., Chicago, Ill.

Frick Co., Waynesboro, Pa.

Jenkins Bros., New York, N. Y.

Ludlow Valve Mfg. Co., Troy, N. Y.

Lunkenheimer Co., The, Cincinnati, O.

Powell Co., The, William, Cincinnati, O.

Ryerson, Son, Jas. T., St. Louis and New York.

Vogt Mch. Co., Inc., Henry, Louisville, Ky.

Westinghouse Traction Brake Co., Wilmerding, Pa.

Wood Drill Works, Paterson, N. J.

Yost Mfg. Co., York, Pa.

Air-cooled.

Lunkenheimer Co., The, Cincinnati, O.

Gas Producing.

Morgan Construction Co., Worcester, Mass.

Gas Reversing.

Morgan Construction Co., Worcester, Mass.

State.

Gasoline.

Industrial.

Alphabetical Index of Advertisements

A

Abendroth & Root Mfg. Co.	120
Acme Wagon Co.	16
Advance Co.	22
Air-Tight Steel Tank Co.	16
Alabama Company	19
Albright & Mebus	32
Allegheny Steel Co.	18
Allen Engineering Co.	*
Allen Eng. & Mfg. Co.	25
Allis-Chalmers Mfg. Co.	31
Allison, Walter A.	*
Alpha Photo Eng. Co.	16
American Appraisal Co.	34
American Bridge Co.	*
American Cast Iron Pipe Co.	120
American Cement Machine Co., Inc.	*
American Cement Tile Mfg. Co.	22
American Creosote Works, Inc.	27
American Creosoting Co. Inc.	26
American District Steam Co.	*
American Elevator & Mch. Co. Inc.	29
American Enamelled Brick & Tile Co.	25
American Fence Construction Co.	*
American Limestone Co.	114
American Lumber Co.	26
American Patter Wks. Co.	*
American Process Co.	117
American Pulley Co.	12
American Rolling Mill Co.	*
American Saw Mill Machinery Co.	*
Amer. Sheet & Tin Plate Co.	19
American Spiral Pipe Wks.	*
American Steel & Wire Co.	*
American Telephone & Telegraph Co.	*
Amer. Water Softener Co.	*
American Window Glass Co.	*
Anchor Foundry Iron Works	*
Anderson Fdry & Mch. Co.	*
Appalachian Marble Co.	*
Archer & Co., E. T.	32
Arctic Ice Machine Co.	*
Armo Culvert & Flume Mfrs. Assn.	*
Armstrong & Bro., R. S.	105
Armstrong & Co., Archer	106
Armstrong Mfg. Co.	8
Arundel Corporation	115
Ashland Fire Brick Co.	10
Ashworth, F. K.	32
Asphalt Assn., The	*
Atkins & Co., E. C., Inc.	25
Atlanta Bolt & Steel Products Co.	*
Atlanta Terra Cotta Co.	24
Atlanta & West Point R. R. Co.	93
Atlantic, Gulf & Pacific Co.	*
Atlantic Manufacturing Co.	106
Atlas Portland Cement Co.	*
Atlas Powder Co.	*
Audubon Wire Cloth Co. Inc.	*
Austin Machinery Corp.	*
Austin Mfg. Co.	*
Austin-Western Road Mch. Co.	118
Automatic Electric Co.	*
Avram & Co., Inc., M. H.	*
Ayres & Miller	34

B

Babcock & Wilcox Co.	8
Baber, Henry H.	107
Bacon & Sons, A. S.	26
Bailey-Lebby Co.	12
Baker Ice Machine Co., Inc.	9
Ball Engine Co.	110
Baltimore Belting Co.	*
Bank of Alabama, The	*
Bannon Pipe Co.	*
Barber Asphalt Co.	*
Barnett Co., G. H.	*
Barrett Company	*
Bartholomew Hardwood Co., E.	*
Batson, S. R.	33
Bauer Bros. Co.	31
Bayley & Co. C.A.D.	35
Bay City Dredge Works	112
Beckerley & Trusler	*
Belmont Iron Works	20
Benjamin Equip. Co., Harry	*
Berger Mfg. Co.	29
Berger Mfg. Co. of Texas	*
Berkley, W. N.	32

Berry Bros.	*
Bessemer Gas Engine Co.	*
Best Service Co.	*
Bethlehem Steel Co.	*
Beverly Heating Co., Inc.	R. C.
Biggs Engineering Co., W. E.	33
Alabama Company	19
Binney & Smith Co.	*
Binwanger & Co.	32
Allegheny Steel Co.	18
Allen Engineering Co.	*
Allen Eng. & Mfg. Co.	25
Allis-Chalmers Mfg. Co.	31
Allison, Walter A.	*
Alpha Photo Eng. Co.	16
American Appraisal Co.	34
American Bridge Co.	*
Black & Veatch	32
American Cast Iron Pipe Co.	120
American Cement Machine Co., Inc.	*
American Cement Tile Mfg. Co.	*
American Creosote Works, Inc.	27
American Creosoting Co. Inc.	26
American District Steam Co.	*
American Elevator & Mch. Co. Inc.	*
American Enamelled Brick & Tile Co.	*
American Fence Construction Co.	*
American Limestone Co.	114
American Lumber Co.	26
American Patter Wks. Co.	*
American Process Co.	117
American Pulley Co.	12
American Rolling Mill Co.	*
American Saw Mill Machinery Co.	*
Amer. Sheet & Tin Plate Co.	19
American Spiral Pipe Wks.	*
American Steel & Wire Co.	*
American Telephone & Telegraph Co.	*
Amer. Water Softener Co.	*
American Window Glass Co.	*
Anchor Foundry Iron Works	*
Anderson Fdry & Mch. Co.	*
Appalachian Marble Co.	*
Archer & Co., E. T.	32
Arctic Ice Machine Co.	*
Armo Culvert & Flume Mfrs. Assn.	*
Armstrong & Bro., R. S.	105
Armstrong & Co., Archer	106
Armstrong Mfg. Co.	8
Arundel Corporation	115
Ashland Fire Brick Co.	10
Ashworth, F. K.	32
Asphalt Assn., The	*
Atkins & Co., E. C., Inc.	25
Atlanta Bolt & Steel Products Co.	*
Atlanta Terra Cotta Co.	24
Atlanta & West Point R. R. Co.	93
Atlantic, Gulf & Pacific Co.	*
Atlantic Manufacturing Co.	106
Atlas Portland Cement Co.	*
Atlas Powder Co.	*
Audubon Wire Cloth Co. Inc.	*
Austin Machinery Corp.	*
Austin Mfg. Co.	*
Austin-Western Road Mch. Co.	118
Automatic Electric Co.	*
Avram & Co., Inc., M. H.	*
Ayres & Miller	34

C

Cabot, Inc., Samuel	27
Caldwell & Co.	*
Caldwell & Co., E. R.	*
Caldwell Co., Inc., W. E.	*
Caldwell & Son Co., H. W.	*
Cambria Clay Products Co.	4
Campbell & Kinsey	*
Campbell & Associates, E. V.	*
Canal Construction Co.	*
Cannelton Clay Products Co.	10
Cannelton Sewer Pipe Co.	120
Canton Art Metal Co.	*
Canton Culvert & Silo Co.	*
Capital Lift & Mfg. Co., The	29
Carborundum Co.	*
Cardwell Machine Co., The	31
Carey Co., Thos. F.	105
Carnegie Steel Co.	*
Carolina Engineering Co.	*
Carolina Portland Cement Co.	*
Babcock & Wilcox Co.	8
Baber, Henry H.	107
Bacon & Sons, A. S.	26
Bailey-Lebby Co.	12
Baker Ice Machine Co., Inc.	9
Ball Engine Co.	110
Baltimore Belting Co.	*
Bank of Alabama, The	*
Bannon Pipe Co.	*
Barber Asphalt Co.	*
Barnett Co., G. H.	*
Barrett Company	*
Bartholomew Hardwood Co., E.	*
Batson, S. R.	33
Bauer Bros. Co.	31
Bayley & Co. C.A.D.	35
Bay City Dredge Works	112
Beckerley & Trusler	*
Belmont Iron Works	20
Benjamin Equip. Co., Harry	*
Berger Mfg. Co.	29
Berger Mfg. Co. of Texas	*
Berkley, W. N.	32

D

Dahlstrom Metallic Door Co.	*
Dake Engine Co.	*
Dart Mfg. Co., E. M.	*
Davis Foundry & Mch Wks	*
Davis, J. F.	104
Davis & Son, G. M.	*
Davisson Chemical Co.	*
De Laval Steam Turbine Co.	*
Delaware Registration Trust Co.	*
Delta Equipment Co.	103
Diamond Rubber Co., Inc.	*
Dillon Supply Co.	105
Dixie Brass & Foundry Co.	30
Dixie Mill Supply Co.	103
Dixie Portland Cement Co.	115
Dixie Crucible Co., Jos.	11
Dixie Engine & Pump Co.	5
Dominion Metal Prod. Corp.	*
Dormon Co., J. F. W.	117
Doubleday Hill Elec. Co.	*
Doullut & Williams Co.	Inc.
Dow & Smith	*
Dow Co. Inc. The	*
Draper Corporation	*
Draper, E. S.	*

E

Drouve Co., The G.	22
Druid Oak Belting Co.	*
Dufur, Baggott & Co.	22
Dunning & Boschert Press	31
DuPont de Nemours E.I.	*
Drouiner Patent Crusher & Pulverizer Co.	*
Gulfport Creosoting Co.	*
Gulf Refining Co.	*
Gulf States Portland Co. ment Co.	*
Greiner & Co. J. E.	*
Grey Steel Products Co.	*
Griffith, Frank	*
Grinnell Co.	*
Gulf Refining Co.	*
Gulf States Portland Co. ment Co.	*
H	

Hadfield-Penfield Steel Co.	*
Hale Mfg. Co., Geo.	*
Halsey-Stuart & Co.	*
Hamburg Boiler Works	*
Hammond-Bryd Iron Co.	*
Hanover Sales Co.	*
Hanchett Bond Co.	*
Harrington & King Perforating Co.	*
Harris Bros. Co.	*
Hartley Boiler Works	*
Harvey Co.	*
Hauser-Stander Tank Co.	*
Hayward Co.	*
Heine Boiler Co.	*
Heineken, W. F.	*
Heltzel Steel Form & Iron Co.	*
Hendphill & Co., Inc. J. L.	*
Hendrick Mfg. Co.	*
Hercules Powder Co.	*
Eric City Iron Works	*
Eric Machine Shops	*
Eric Pump & Engine Works	*
Eric Steam Shovel Co.	*
Eric & Co., Victor J.	*
Exch'g Sawmills Sales Co.	*
F	
Fairbanks, Morse & Co.	*
Falcon Steel Co.	*
Farrus Bridge Co.	*
Federal Phosphorus Co.	*
Fernholz Brick Mch. Co.	*
Fitz Water Wheel Co.	*
Fleet-McGinley Co.	*
Florida Metal Products Co.	*
Crane Co.	*
Flory Mfg. Co., S.	*
Foot Gas Engine Co.	*
Ford, Bacon & Davis, Inc.	*
Forschner, Alfred J.	*
Foster, Co. H. M.	*
Fouilloux, J. A.	*
Foundation Company	*
Frank M. K.	*
Fraser, Brace & Co.	*
Freeland, Robert C.	*
Freeman & Co., Samuel T.	*
Freeport Sulphur Co.	*
Fress & Co., E. M.	*
Frick Co.	*
Friend & Co.	*
Fritsch, Inc. L. P.	*
Froehling & Robertson	*
Fuston, Walter J.	*
G	
Gallion Iron Works & Mfg. Co.	*
Gardner & Howe	*
General Electric Co.	*
General Engr. & Const. Co.	*
General Motors Truck Co.	*
George Construction Co.	*
Georgia Car & Loco. Co.	*
Georgia-Carolina Brick Co.	*
Glamorgan Pipe & Fdry. Co.	*
Goldens Fdry. & Mch. Co.	*
Goodrich Rubber Co., B. F.	*
Good Roads Mchry. Co.	*
Goodyear Tire & Rubber Co.	*
Gordon Metal Co.	*
Goulds Mfg. Co.	*
Grady & Co., Thos. E.	*
Grainger & Co.	*
Grant Supply Co., Chas. J.	*
Great Southern Lumber Co.	*
Greene, John M.	*
Green Fire Brick Co. A. P. 10	*
Greenwood Engr. Co.	*
K. C. Elevator Mfg. Co.	*
Kehoe, Robert P.	*
Kelly-Springfield Tire Co.	*
Kennedy, Arthur M.	*
Kentucky Oxygen-Hydrogen Co.	*
Kentucky Rock Asphalt Co.	*
Keystone Driller Co.	*
Keystone Pipe & Supply Co.	*
Kilby Frog & Switch Co.	*
Kimball Bros Co.	*

K. C. Elevator Mfg. Co.	*
Kehoe, Robert P.	*
Kelly-Springfield Tire Co.	*
Kennedy, Arthur M.	*
Kentucky Oxygen-Hydrogen Co.	*
Kentucky Rock Asphalt Co.	*
Keystone Driller Co.	*
Keystone Pipe & Supply Co.	*
Kilby Frog & Switch Co.	*
Kimball Bros Co.	*

King, Philip T.	Moeschi-Edwards Corrugating Co.	Pipe & Contractors' Supply Co.	Shearer, C. E.	32	U
King-Port Brick Corp.	24	22	Shepard Electric Cranes & Hoist Co.	14	Union Drawn Steel Co.
Kaneer Mfg. Co.	40	29	Sherwood, E. C.	105-106	Union Mining Co.
Kanev Mfg. Co.	119	Pittsburgh-Des Moines Steel Co.	138	Union Sulphur Co.	
Kirby-Bonner, Lumber Co.	21	Pittsburgh Steel Co.	138	United Iron Works, Inc.	
Klaff & Co., H.	95-106	Pittsburgh Testing Laboratory	34	Universal Concrete Products Co.	
Klein & Co., Nathan	100	Platt Iron Works	122	Universal Machine Co.	
Kyce, B. H.	32	Plymouth Cordage Co.	122	Universal Road Mch. Co.	
Knoxville Iron Co.	21	Portable Machinery Co.	7	U. S. Cast Iron Pipe & Fdry. Co.	
Krebsing Co.	21	Porter Co., H. K.	105	U. S. Navy Central Sales Office	
Kiss & Sons, Henry A.	96	Portland Cement Ass'n.	105	U. S. Salvage & Equip. Co.	
L		Portsmouth Refractories Co	10	102	
Laciado Steel Co.	20	Portsmouth Refractories Co	10	105	
Lancaster Iron Works	21	Portsmouth Refractories Co	10	105	
Lane Mfg. Co.	21	Portsmouth Refractories Co	10	105	
Larew Printing Co.	85	Portsmouth Refractories Co	10	105	
Layne & Bowles Co.	122	Portsmouth Refractories Co	10	105	
Lee, Wm. S.	32	Portsmouth Refractories Co	10	105	
Lelef & Co., James	122	Portsmouth Refractories Co	10	105	
Lehman, Chas. T.	106	Portsmouth Refractories Co	10	105	
Leiderking, Philip H.	112	Portsmouth Refractories Co	10	105	
Leschen & Sons Ropeway Co., A. M.	40	Portsmouth Refractories Co	10	105	
Levit & Co., Henry	106	Portsmouth Refractories Co	10	105	
Levy, Jacob	105	Portsmouth Refractories Co	10	105	
Lits, Martin J.	32	Portsmouth Refractories Co	10	105	
Lidgerwood Mfg. Co.	109	Portsmouth Refractories Co	10	105	
Link Belt Co.	109	Portsmouth Refractories Co	10	105	
Liquids Dispatch Lines	19	Portsmouth Refractories Co	10	105	
Lockwood Brick & Tile Co.	24	Portsmouth Refractories Co	10	105	
Lombard Iron Works & Supply Co.	12	Portsmouth Refractories Co	10	105	
Long Bell Lumber Co.	12	Portsmouth Refractories Co	10	105	
Long Co., M. A.	32	Portsmouth Refractories Co	10	105	
Lookout Boiler & Mfg. Co.	122	Portsmouth Refractories Co	10	105	
Lovelace, W. Y.	103	Portsmouth Refractories Co	10	105	
Ludlow Engineers, The	33	Portsmouth Refractories Co	10	105	
Ludlow-Saylor Wire Co.	22	Portsmouth Refractories Co	10	105	
Ludlow Valve Mfg. Co.	121	Portsmouth Refractories Co	10	105	
Lutociw-Celadon Co.	28	Portsmouth Refractories Co	10	105	
Luehrs Co., The Daniel M. 32	122	Portsmouth Refractories Co	10	105	
Lukens Steel Co.	21	Portsmouth Refractories Co	10	105	
Luskenheimer Co.	8	Portsmouth Refractories Co	10	105	
Lupton's Sons Co., David	122	Portsmouth Refractories Co	10	105	
Lutzen, Daniel B.	32	Portsmouth Refractories Co	10	105	
Luter, Clark A.	32	Portsmouth Refractories Co	10	105	
M		Portsmouth Refractories Co	10	105	
McCalla, Co., Harold	11	Portsmouth Refractories Co	10	105	
McCalla & Co., J. B.	34	Portsmouth Refractories Co	10	105	
McClave-Brooks Co.	6	Portsmouth Refractories Co	10	105	
McClinic-Marshall Co.	20	Portsmouth Refractories Co	10	105	
McCrary Co., J. B.	32	Portsmouth Refractories Co	10	105	
McDevitt-Fleming Co.	32	Portsmouth Refractories Co	10	105	
McEvoy & Co., J. H.	40	Portsmouth Refractories Co	10	105	
McEwan Lumber Co.	26	Portsmouth Refractories Co	10	105	
McGinnis & Co., N. C.	32	Portsmouth Refractories Co	10	105	
McGowan Co., John H.	121	Portsmouth Refractories Co	10	105	
McInerney Co., The	11	Portsmouth Refractories Co	10	105	
McLanahan-Stone Mch. Co.	116	Portsmouth Refractories Co	10	105	
McMillan, A.	11	Portsmouth Refractories Co	10	105	
Melita Lumber Co.	26	Portsmouth Refractories Co	10	105	
McWilliams Co., Inc.	32	Portsmouth Refractories Co	10	105	
Macon Concrete Roller Co.	1	Portsmouth Refractories Co	10	105	
Main, Chas. T.	32	Portsmouth Refractories Co	10	105	
Mal-Gra Casting Co.	30	Portsmouth Refractories Co	10	105	
Mallory Mch. Corp.	11	Portsmouth Refractories Co	10	105	
Manhattan Perf. Metal Co.	1	Portsmouth Refractories Co	10	105	
Manistee Iron Works Co.	122	Portsmouth Refractories Co	10	105	
Marbleoid Co., The	11	Portsmouth Refractories Co	10	105	
Marine Bank & Trust Co.	103	Portsmouth Refractories Co	10	105	
Marine Metal & Sup. Co.	103	Portsmouth Refractories Co	10	105	
Marion Steam Shovel Co.	110	Portsmouth Refractories Co	10	105	
Markel, F. E.	34	Portsmouth Refractories Co	10	105	
Maryland Metal Building Co.	1	Portsmouth Refractories Co	10	105	
Maryland Trust Co.	85	Portsmouth Refractories Co	10	105	
Master Builders Co.	1	Portsmouth Refractories Co	10	105	
Mayer, F.	1	Portsmouth Refractories Co	10	105	
Meads & Co., Richard K.	32	Portsmouth Refractories Co	10	105	
Medart Mfg. Co., Fred	1	Portsmouth Refractories Co	10	105	
Medart Co., The	13	Portsmouth Refractories Co	10	105	
Mess & Mass.	34	Portsmouth Refractories Co	10	105	
Mercantile Trust & Deposit Co.	1	Portsmouth Refractories Co	10	105	
Merchants & Manufacturers Assn.	1	Portsmouth Refractories Co	10	105	
Meyers Mfg. Co., Fred J.	95	Portsmouth Refractories Co	10	105	
Michigan Pipe Co.	119	Portsmouth Refractories Co	10	105	
Midland Barge Co.	1	Portsmouth Refractories Co	10	105	
Midvale Steel & Ord. Co.	32	Portsmouth Refractories Co	10	105	
Milburn, Heister & Co.	32	Portsmouth Refractories Co	10	105	
Miles Machinery Co.	1	Portsmouth Refractories Co	10	105	
Miller & Co., G. L. Inc.	1	Portsmouth Refractories Co	10	105	
Minter Homes Co., The	36	Portsmouth Refractories Co	10	105	
Model Land Co.	124	Portsmouth Refractories Co	10	105	
O		Portsmouth Refractories Co	10	105	
O'Briant & Yost	1	Portsmouth Refractories Co	10	105	
O'Briant Machinery Co.	101	Portsmouth Refractories Co	10	105	
Oconee Brick & Tile Co.	1	Portsmouth Refractories Co	10	105	
Oliver Iron & Steel Co.	1	Portsmouth Refractories Co	10	105	
Olson, O.	32	Portsmouth Refractories Co	10	105	
Orton & Hill Inc.	32	Portsmouth Refractories Co	10	105	
Orton & Steinbrenner	12	Portsmouth Refractories Co	10	105	
Osgood Co.	1	Portsmouth Refractories Co	10	105	
Otis, R. R.	1	Portsmouth Refractories Co	10	105	
Owen Bucket Co.	110	Portsmouth Refractories Co	10	105	
Owensboro Sewer Pipe Co.	1	Portsmouth Refractories Co	10	105	
P		Portsmouth Refractories Co	10	105	
Pacific Flush-Tank Co.	1	Portsmouth Refractories Co	10	105	
Packard Motor Car Co.	1	Portsmouth Refractories Co	10	105	
Palmer-Rhodes Co.	103	Portsmouth Refractories Co	10	105	
Parks Ball Bearing Machine Co., The	1	Portsmouth Refractories Co	10	105	
Parke Engineering Co.	34	Portsmouth Refractories Co	10	105	
Parsons, Klapp, Brinckerhoff	1	Portsmouth Refractories Co	10	105	
Parsons & Douglas	33	Portsmouth Refractories Co	10	105	
Patten Mfg. Co.	1	Portsmouth Refractories Co	10	105	
Patterson Steel Co.	1	Portsmouth Refractories Co	10	105	
Pawling & Harnischfeger	100	Portsmouth Refractories Co	10	105	
Pennsylvania Drilling Co.	35	Portsmouth Refractories Co	10	105	
Pennsylvania Pump & Compressor Co.	122	Portsmouth Refractories Co	10	105	
Pensacola Creosoting Co.	27	Portsmouth Refractories Co	10	105	
Petersburg Sand & Gravel Corp.	1	Portsmouth Refractories Co	10	105	
Petroleum Iron Works Co.	120	Portsmouth Refractories Co	10	105	
Pfannmueller Engineering Co.	1	Portsmouth Refractories Co	10	105	
Photostat Corp.	1	Portsmouth Refractories Co	10	105	
Salem Fdy. & Mch. Wks.	110	Portsmouth Refractories Co	10	105	
Sales Corp., The	1	Portsmouth Refractories Co	10	105	
Samler Bros. Co.	1	Portsmouth Refractories Co	10	105	
Samson Cordage Works	1	Portsmouth Refractories Co	10	105	
Sanders & Sweeny	1	Portsmouth Refractories Co	10	105	
Samputa Refining Co.	1	Portsmouth Refractories Co	10	105	
Sauerman Bros.	1	Portsmouth Refractories Co	10	105	
Savannah Blow Pipe Co.	1	Portsmouth Refractories Co	10	105	
Savannah Creosoting Co.	27	Portsmouth Refractories Co	10	105	
Seafire & Sons Co., Wm. B.	11	Portsmouth Refractories Co	10	105	
Seeger Machine Tool Co.	101	Portsmouth Refractories Co	10	105	
Security Bank Note Co.	54	Portsmouth Refractories Co	10	105	
Seyfert's Sons, Inc., L. F.	104	Portsmouth Refractories Co	10	105	
Sharpstown Boiler Works	104	Portsmouth Refractories Co	10	105	
Shearer, C. E.	1	Portsmouth Refractories Co	10	105	
Shepard Electric Cranes & Hoist Co.	1	Portsmouth Refractories Co	10	105	
Sherwood, E. C.	1	Portsmouth Refractories Co	10	105	
Shreveport Blow-Pipe & Sheet Iron Works, Ltd.	1	Portsmouth Refractories Co	10	105	
Silverman Co., W. H.	1	Portsmouth Refractories Co	10	105	
Singer Iron & Steel Co.	1	Portsmouth Refractories Co	10	105	
Sirrine & Co., J. E.	1	Portsmouth Refractories Co	10	105	
Slayton & Co., W. L.	1	Portsmouth Refractories Co	10	105	
Smith & Jaffe	1	Portsmouth Refractories Co	10	105	
Smith, Oscar T.	1	Portsmouth Refractories Co	10	105	
Smith, S. Morgan	1	Portsmouth Refractories Co	10	105	
Smith, Co., The	1	Portsmouth Refractories Co	10	105	
Smith-Courtney Co.	1	Portsmouth Refractories Co	10	105	
Smith-Gas Engineering Co.	1	Portsmouth Refractories Co	10	105	
Smyth Co., S. R.	1	Portsmouth Refractories Co	10	105	
Snash Architectural Iron Works	1	Portsmouth Refractories Co	10	105	
Prentiss & Co., Inc., Henry	96	Portsmouth Refractories Co	10	105	
Porter Sheet Metal Co.	1	Portsmouth Refractories Co	10	105	
Progressive Mfg. Co.	30	Portsmouth Refractories Co	10	105	
Proposal Advertisements	1	Portsmouth Refractories Co	10	105	
Portsmouth Steam Pump Co.	1	Portsmouth Refractories Co	10	105	
R		Portsmouth Refractories Co	10	105	
Racine Tool & Machine Co.	1	Portsmouth Refractories Co	10	105	
Randall Machinery Co.	101-102	Portsmouth Refractories Co	10	105	
Raymond Bros. Imp. Pul. Co.	116	Portsmouth Refractories Co	10	105	
Raymond Mfg. Co., Ltd.	119	Portsmouth Refractories Co	10	105	
Ready Chain & Block Corp.	1	Portsmouth Refractories Co	10	105	
Reed & Duecker	1	Portsmouth Refractories Co	10	105	
Ready Elevator Co.	29	Portsmouth Refractories Co	10	105	
Reeves Pulley Co.	1	Portsmouth Refractories Co	10	105	
Reflectolyte Co., The	22	Portsmouth Refractories Co	10	105	
Regnas & Co., J. R.	1	Portsmouth Refractories Co	10	105	
Reid, J. G.	32	Portsmouth Refractories Co	10	105	
Reid's Sons, Inc., Chas.	14	Portsmouth Refractories Co	10	105	
Reilly Mfg. Co., Co., J.	20	Portsmouth Refractories Co	10	105	
Rennaburg & Sons Co., Edw.	117	Portsmouth Refractories Co	10	105	
Republican Iron & Steel Co.	1	Portsmouth Refractories Co	10	105	
Republic Iron Works	1	Portsmouth Refractories Co	10	105	
Revere Pulley Co.	1	Portsmouth Refractories Co	10	105	
Revoltectolyte Co., The	22	Portsmouth Refractories Co	10	105	
Stanley Lumber Co., H. F.	1	Portsmouth Refractories Co	10	105	
Starrett Co., L. S.	14	Portsmouth Refractories Co	10	105	
Steel, John A. Jr.	32	Portsmouth Refractories Co	10	105	
Steele & Sons, J. C.	23	Portsmouth Refractories Co	10	105	
Stevens Bros. & Co.	10	Portsmouth Refractories Co	10	105	
Stewart & Co., Paul	117	Portsmouth Refractories Co	10	105	
Stewart Iron Works Co.	1	Portsmouth Refractories Co	10	105	
Stone & Webster, Inc.	1	Portsmouth Refractories Co	10	105	
Strand & Co., N. A.	1	Portsmouth Refractories Co	10	105	
Stroudsburg Engine Works	1	Portsmouth Refractories Co	10	105	
Structural State Co.	1	Portsmouth Refractories Co	10	105	
Sullivan Machinery Co.	1	Portsmouth Refractories Co	10	105	
Sun Shipbuilding Co.	1	Portsmouth Refractories Co	10	105	
Swedish Venetian Blind Co.	1	Portsmouth Refractories Co	10	105	
Syndor Pump & Well Co., Inc.	122	Portsmouth Refractories Co	10	105	
T		Portsmouth Refractories Co	10	105	
Terry Mfg. Co.	1	Portsmouth Refractories Co	10	105	
Texaco	1	Portsmouth Refractories Co	10	105	
Texans & Pacific Railway Co.	1	Portsmouth Refractories Co	10	105	
Textile Hall Corp.	1	Portsmouth Refractories Co	10	105	
Sanders & Sweeny	1	Portsmouth Refractories Co	10	105	
Texhoma Oil & Refining Co.	1	Portsmouth Refractories Co	10	105	
Thomas Grate Bar Co.	1	Portsmouth Refractories Co	10	105	
Title Guarantees & Trust Co.	1	Portsmouth Refractories Co	10	105	
Toomey, Inc., Frank	102	Portsmouth Refractories Co	10	105	
Titus, E. E.	1	Portsmouth Refractories Co	10	105	
Todd & McCullough	85	Portsmouth Refractories Co	10	105	
Tucker & Laxton	33	Portsmouth Refractories Co	10	105	
Traylor Eng'g & Mfg. Co.	5	Portsmouth Refractories Co	10	105	
Schofield Iron Works	1	Portsmouth Refractories Co	10	105	
Treadwell Construction Co.	20	Portsmouth Refractories Co	10	105	
Scranton Forging Co.	30	Portsmouth Refractories Co	10	105	
Seaboard Air Line	83	Portsmouth Refractories Co	10	105	
Truscon Laboratories	1	Portsmouth Refractories Co	10	105	
Truscon Steel Co.	1	Portsmouth Refractories Co	10	105	
Turner Architectural Service	1	Portsmouth Refractories Co	10	105	
Turner, C. A. P.	32	Portsmouth Refractories Co	10	105	
Turner Co., C.	112	Portsmouth Refractories Co	10	105	
Y		Portsmouth Refractories Co	10	105	
Yolande Coal & Coke Co.	117	Portsmouth Refractories Co	10	105	
York Mfg. Co.	9	Portsmouth Refractories Co	10	105	
Young & Selden Co.	1	Portsmouth Refractories Co	10	105	
Youngstown Sheet & Tube Co.	1	Portsmouth Refractories Co	10	105	
Z		Portsmouth Refractories Co	10	105	
Zelnicker Sup. Co., Walter A.	115	Portsmouth Refractories Co	10	105	
Zouri Drawn Metals Co.	119	Portsmouth Refractories Co	10	105	

Adva. marked ♦ not in this issue.
Adva. marked ♦ appear in first issue of the month.
Adva. marked ♦ appear next other week.

In Every Industrial Scene

ELEVATED WATER TANKS



Almost without exception whenever you see an illustration of a group of modern industrial buildings, you will find, somewhere in the picture, an elevated steel tank. If you knew the signs, you would recognize many of them as Pittsburgh-Des Moines Tanks.

This fact is significant in that it shows how well recognized is the principle of which Pittsburgh-Des Moines Tanks are the concrete embodiment. The leaders of industry know the importance of protecting their plants by a liberal supply of water at the right pressure. Fire isn't the only use for this water for most every industrial process calls for the use of water at some step in the operation.

How about your plant. Pittsburgh-Des Moines Tanks may offer the solution to vexing water supply problems. Consult with our engineers. We will be glad to submit bids and specifications upon request.

Write for catalogue No. 75

Pittsburgh-Des Moines Steel Co.

875 CURRY BUILDING, PITTSBURGH, PA.

DISTRICT OFFICES:

New York Chicago Dallas Des Moines Detroit

San Francisco Washington Chatham, Ont. Montreal, Que.

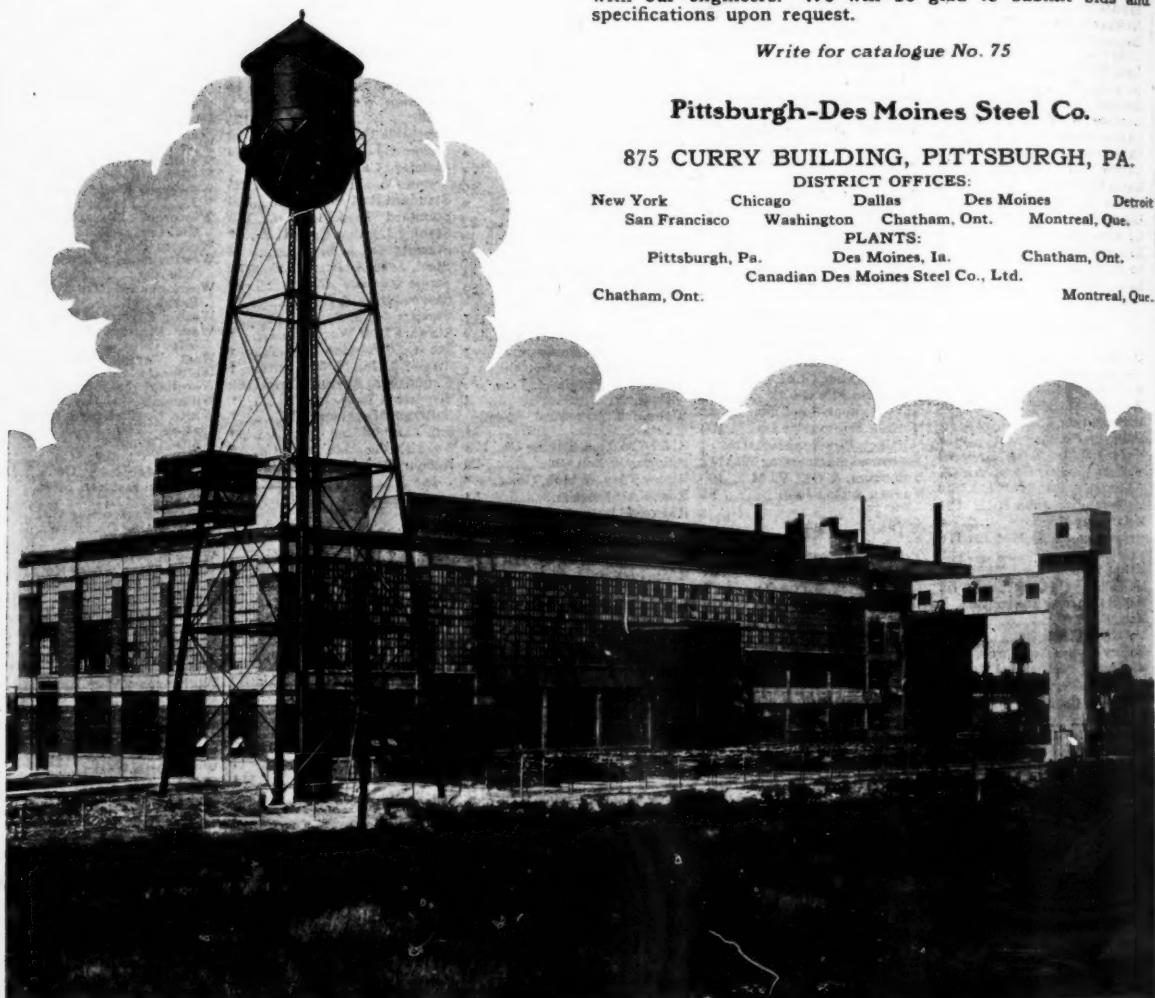
PLANTS:

Pittsburgh, Pa. Des Moines, Ia. Chatham, Ont.

Canadian Des Moines Steel Co., Ltd.

Montreal, Que.

Chatham, Ont.



PITTSBURGH

DES MOINES



Outside "laboratory" tests show that the strength of this roofing is very greater than any similar material on the market. Yet it contains no metal reinforcement.

A well-known material in new form—

Transite Corrugated Asbestos Roofing and Siding

The roofing of many industrial buildings, over skeleton framing, bears a double responsibility. It is both roof and ceiling.

From without it must resist weather and fire. From within it is subjected to heat, condensation, and corrosive vapors.

Metal and most felts are unequal to one or both of these conditions. Hence Transite—in corrugated roofing form.

It is hard to imagine a roofing more inert to fire, water, and corrosives than this combination of Portland cement and Asbestos fibre.

Literally a Sheet of Rippled Rock

The fibrous nature of Transite makes it inherently strong and remarkably light.

The added strength of the cor-

rugations gives it a factor of safety that practice will never tax. This greater strength obviates the need for metal reinforcement—clearly an advantage in weight and in cost. Where chemicals are present this means life insurance for the roof.

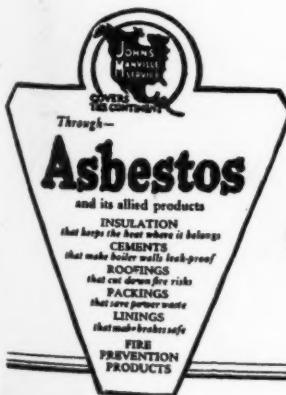
Fewer Joints—Less Steel Structure

This is indicated by the extra size sheet furnished—42 x 90 inches.

And here is another saving. You would not expect to paint this rocky slab—and you need not. Transite cannot rust or corrode.

Let us send you a booklet descriptive of this material.

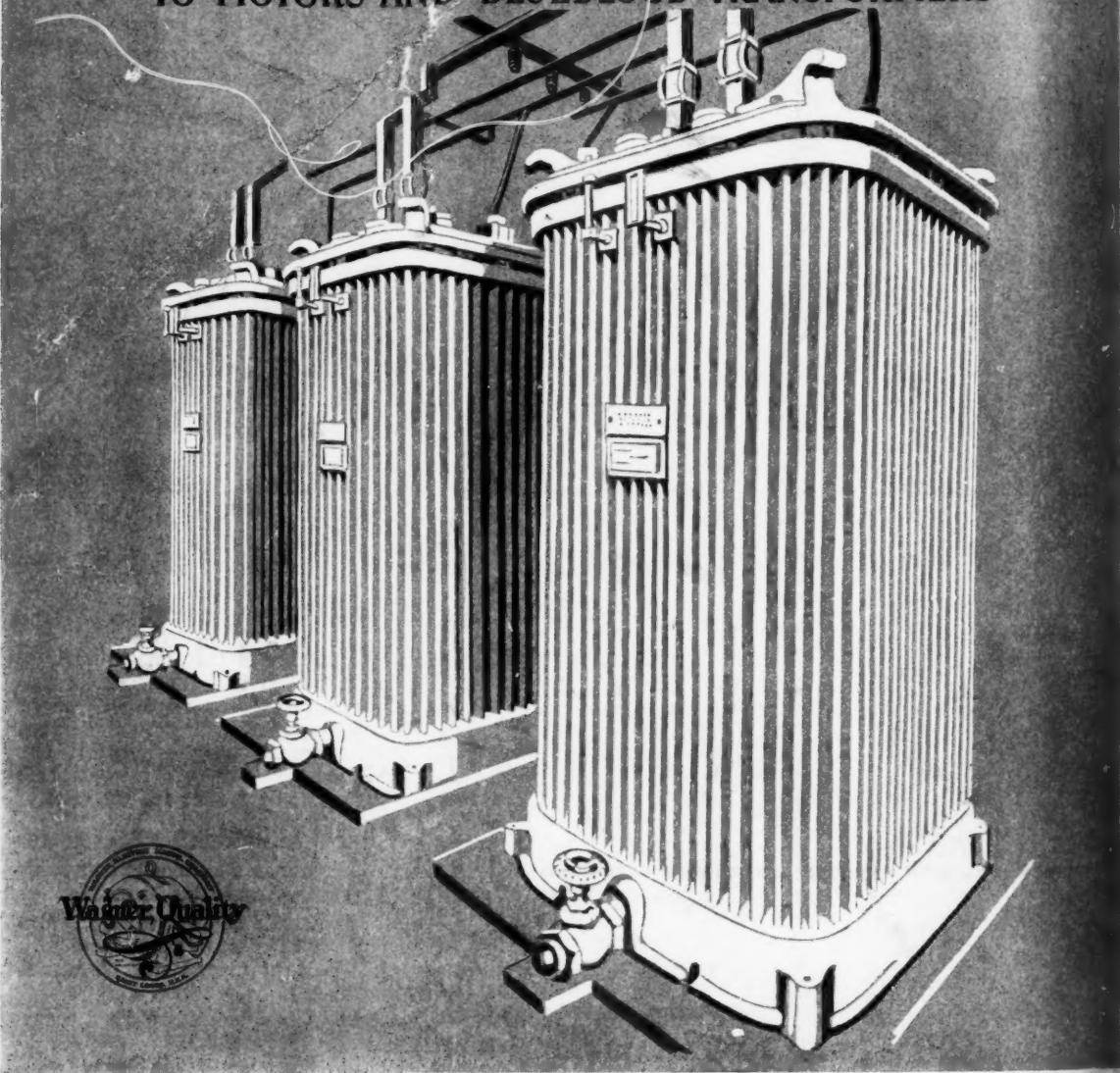
JOHNS-MANVILLE Inc.
Madison Avenue, at 41st Street, New York City
Branches in 55 Large Cities
For Canada: CANADIAN JOHNS-MANVILLE CO., LTD., Toronto



JOHNS-MANVILLE Asbestos Roofing

Wagner, Quality

40° MOTORS AND "BLUEBLOOD" TRANSFORMERS



ABILITY & The builders of:

The first 10,000 volt Transformer (1896)

The first 1500 kv-a. Transformer (1898)

The first 40,000 volt Transformer (1898)

are builders of the Wagner, Quality Transformers of to-day.

Wagner, Quality Transformers are furnished in both Distribution and Power types in a wide range of styles and sizes.

Wagner Electric Corporation, Saint Louis, Missouri

28, 1922.

Z

uri

XUM